Frequency Analysis of Extreme Rainfall Values

GEO Report No. 261

C.S.C. Tang & S.P.Y. Cheung

Geotechnical Engineering Office
Civil Engineering and Development Department
The Government of the Hong Kong
Special Administrative Region

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Preface

In keeping with our policy of releasing information which may be of general interest to the geotechnical profession and the public, we make available selected internal reports in a series of publications termed the GEO Report series. The GEO Reports can be downloaded from the website of the Civil Engineering and Development Department (http://www.cedd.gov.hk) on the Internet. Printed copies are also available for some GEO Reports. For printed copies, a charge is made to cover the cost of printing.

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Y.C. Chan
Head, Geotechnical Engineering Office
October 2011

Foreword

This report presents the results of frequency analysis of extreme rainfall intensities based on some 26 years of rainfall data recorded at 43 GEO raingauges between 1984 and 2009. These extreme rainfall intensities derived from the raingauge-specific data could be used for determining site-specific design rainfall intensity for slope surface drainage provisions and slope stability assessment in Hong Kong.

This report was prepared by Mr Chris S.C. Tang of the Standards & Testing Division under the supervision of initially Mr Sammy P.Y. Cheung up to January 2010 and subsequently Mr Alan C.W. Wong. Mr Corn H.W. Chan, Mr W.K. Ho and Mr Edwin W.L. Li assisted in compiling and checking of rainfall data for the analyses. Mr H.Y. Mok and Mr Jack C.Y. Cheng of the Hong Kong Observatory provided technical advice on extreme rainfall frequency analysis and the use of the statistical program "R-project". Many GEO, HKO and DSD colleagues also gave useful comments on the draft report. All contributions are gratefully acknowledged.

Ken K.S. Ho
Chief Geotechnical Engineer/Standards & Testing

Abstract

The Geotechnical Manual for Slopes (GCO, 1984) adopts the extreme rainfall intensities derived by Peterson & Kwong (1981) based on frequency analysis of the rainfall data recorded at the principal raingauge of the Hong Kong Observatory (HKO) in Tsim Sha Tsui (1947 - 1980) and the raingauge at King's Park Rise (1952 - 1980). GCO (1984) presents the extreme rainfall intensities by means of intensity-duration-frequency (IDF) curves for use in the design of slope surface drainage, etc.

However, it is well recognised that the spatial distribution of rainfall is highly variable in Hong Kong. GCO (1984) recommends that for the design of major drainage structures, the validity of the IDF curves at different locations should be confirmed by undertaking an independent analysis of rainfall data obtained from the nearest raingauge. GEO has been operating a network of automatic raingauges since 1984. To date, some 26 years of rainfall data are available for 43 GEO raingauges.

In this study, statistical modelling of annual maximum rainfall was carried out using both the Gumbel distribution and the Generalized Extreme Value (GEV) distribution in order to estimate the extreme rainfall intensities under different combinations of return periods and durations for the 43 GEO raingauges. Based on the derived extreme rainfall intensities, raingauge-specific IDF curves were fitted using the Wisner's formula, which was the same as that adopted in the past studies (e.g. Peterson & Kwong, 1981; Lam & Leung, 1994). The IDF curves based on the GEV distribution are found to be unrepresentative for the majority of the raingauges, as rainfall data from the GEO raingauges are insufficient for fitting a GEV distribution. Therefore, they have not been adopted for further diagnosis in this study.

The IDF curves based on Gumbel distribution have been compared with the IDF curves given in GCO (1984). The IDF curves of Raingauge No. N14, which is located at the peak of Tai Mo Shan, are much higher than the others. The higher IDF curves of Raingauge No. N14 may be a result of orographic effects. As such, the application of these IDF curves should be done judiciously. The 42 raingauge-specific IDF curves for each of the return periods form a band of curves with a consistent trend. The variation of raingauge-specific rainfall intensities can be attributed to the spatial variation of rainfall, as well as the inherent uncertainties associated with the analysis. The plots indicate that the IDF curves given in GCO (1984) generally lie within the band of raingauge-specific IDF curves for short rainfall duration of up to about 20 to 30 minutes. For longer rainfall durations, the raingauge-specific IDF curves are bound by the IDF curves given in GCO (1984).

New IDF curves are proposed for use in slope drainage design in Hong Kong.

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1 Introduction

The key reference for estimating extreme rainfall intensities is Peterson & Kwong (1981), which is based on the rainfall data recorded at the principal raingauge of the Hong Kong Observatory (HKO) in Tsim Sha Tsui during the period of 1947 to 1980 and the raingauge at King's Park Rise for the period of 1952 to 1980. The Geotechnical Manual for Slopes (GCO, 1984) recommends using the "Rational Method" for general design of slope surface drainage. The method considers three components, viz. the runoff coefficient, the estimated catchment area, and the design rainfall intensity for a given return period. GCO (1984) presents the extreme rainfall intensities derived by Peterson & Kwong (1981) in the form of Intensity-Duration-Frequency (IDF) curves (Table 1.1). Lam & Leung (1994) updated the estimates of extreme rainfall intensities by including three additional raingauges in the New Territories for the period of 1981 to 1990 and extending the data in the Tsim Sha Tsui and King's Park Rise raingauges to 1990. The extreme rainfall intensities given in Lam & Leung (1994) are adopted by DSD (2000) for the design of storm drains.

Table 1.1 Design Rainfall Intensities (mm/hr) in Figure 8.2 of GCO (1984)

Duration (minutes)	Return Period (years)								
	1000	500	200	100	50	20	10	5	2
5	361	339	309	287	264	234	210	186	149
10	315	295	269	248	228	201	180	158	126
15	287	268	244	225	207	182	163	143	113
30	244	228	206	190	173	151	135	117	90.3
60	191	178	161	148	135	117	104	89.8	68.6
120	141	131	118	108	97.4	84	73.6	62.8	46.5

The spatial distribution of rainfall in rainstorm and the hilly terrain of Hong Kong can be highly variable. GCO (1984) recognises the possible oversimplification of using the IDF derived from a few raingauges to represent the extreme rainfall intensities for the whole of Hong Kong. Figure 1.1 shows the isohyets of the maximum rolling 4-hour rainfall recorded during the 7 June 2008 rainstorm. The figure reveals the considerable spatial variability in terms of the extreme rainfall intensity over the storm period. In this particular rainstorm, the rainfall was more intense at Lantau Island than at the other parts of Hong Kong. Figure 1.2 shows the contours of annual rainfall in 2008. The amount of annual rainfall ranges from about 2,400 mm at the southern part of Hong Kong Island, to over 3,900 mm at the peak of Tai Mo Shan. For the design of major drainage structures such as nullah and culverts, GCO (1984) suggests carrying out site-specific analysis of rainfall data. For routine slope drainage design "in small catchments", GCO (*op cit.*) recommends using the above IDF curves. It is noteworthy that the IDF curves derived by Lam & Leung (1994) are generally close to, and slightly lower, than the corresponding curves in GCO (1984).

Evans (1996) observed that the rainfall distribution could be significantly influenced

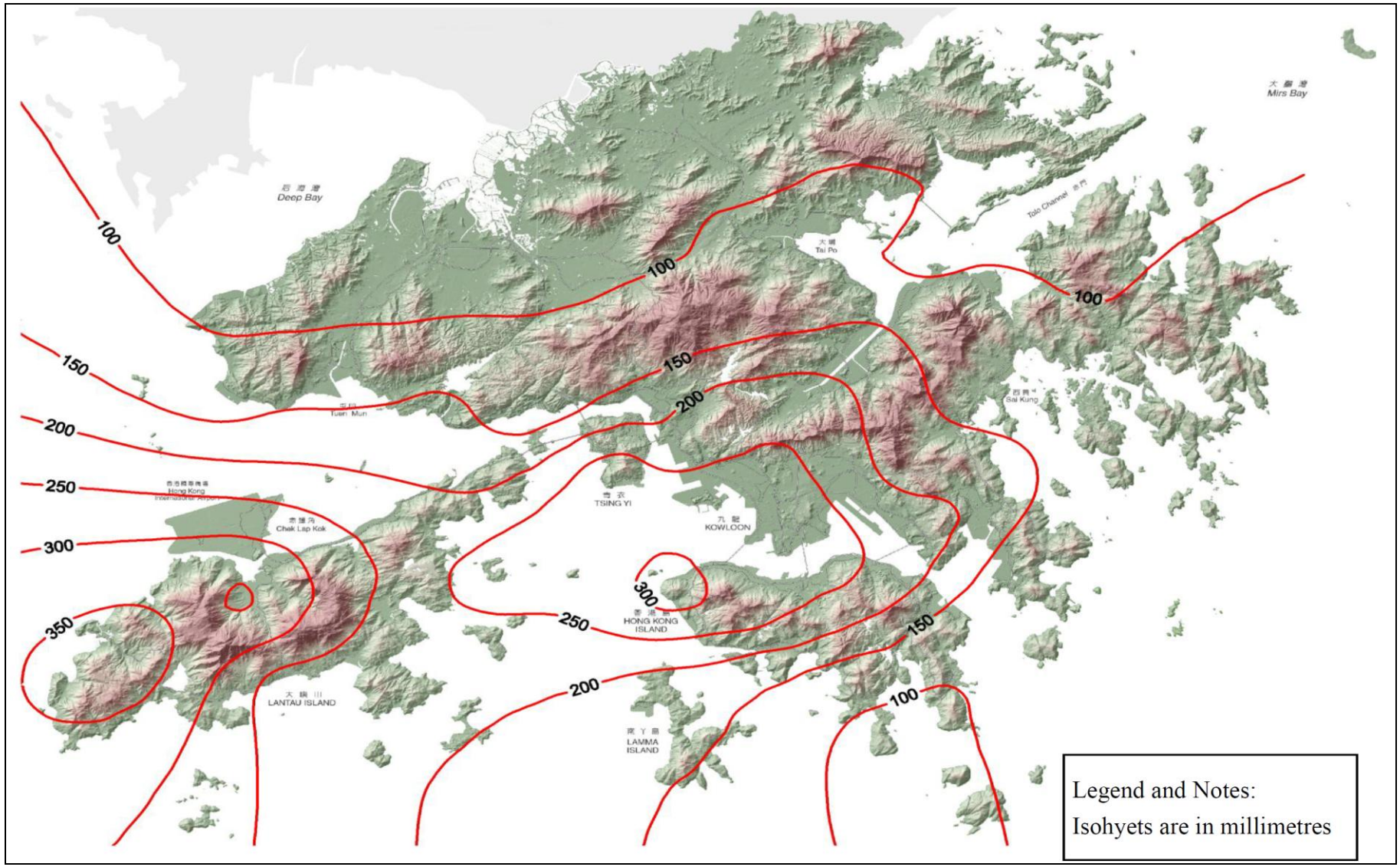

Figure 1.1 Isohyets of Maximum Rolling 4-hour Rainfall recorded in the 7 June 2008 Rainstorm

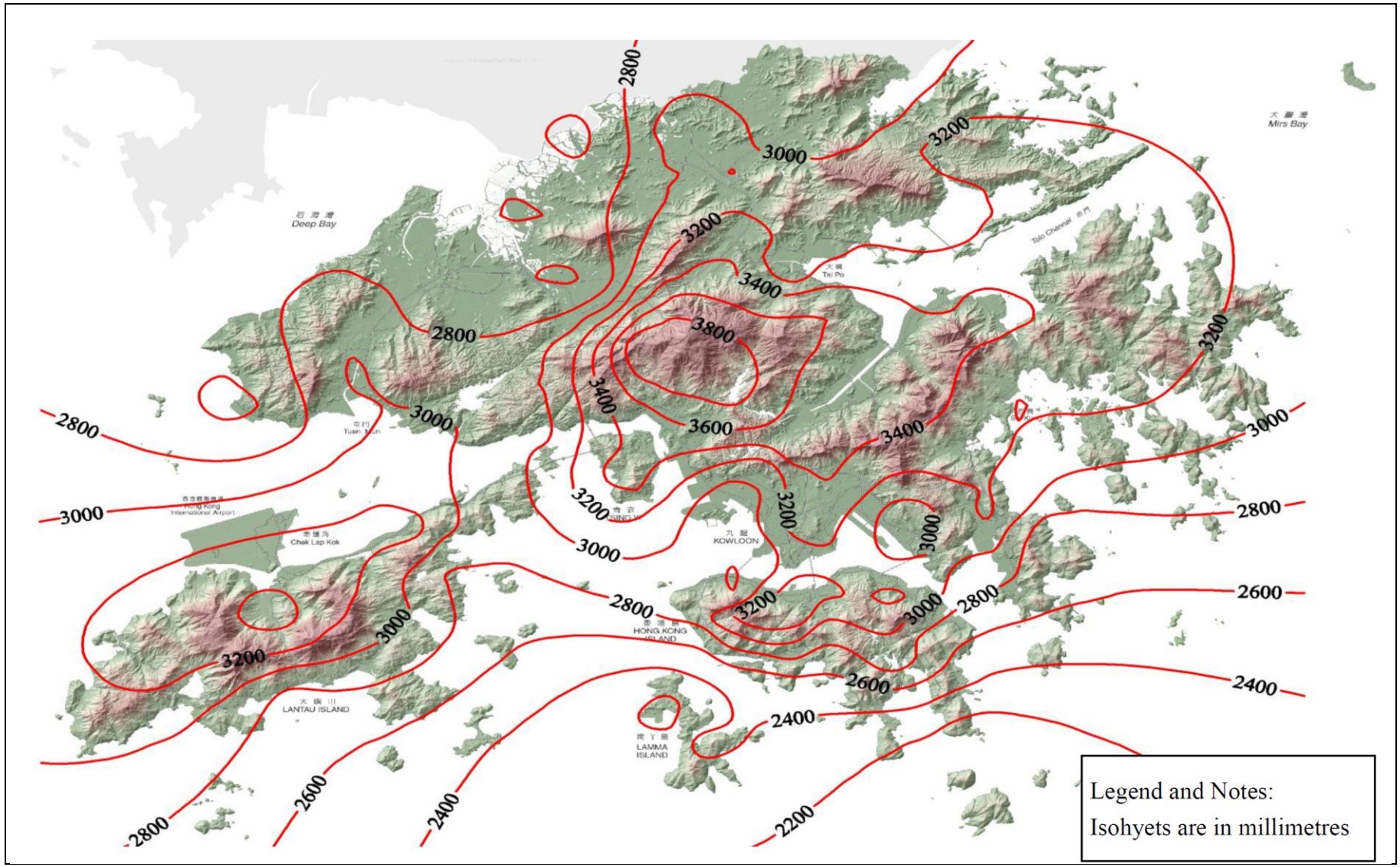

Figure 1.2 Contours of Annual Rainfall in 2008

by orographic effects, but that the available rainfall data was not adequate for correlating rainfall with elevations at upland areas. Evans & Yu (2001) carried out statistical analyses of fourteen years of rainfall data recorded at 46 GEO automatic raingauges and recommended that the extreme rainfall intensity should be reviewed when more than 20 years of rainfall data are available for analysis.

This Technical Note presents the frequency analysis of extreme rainfall based on the up-to-date records of rainfall data collected from the GEO raingauges with some 26 years of data. The frequency distribution of annual maximum rainfall was modelled based on Gumbel distribution, which was adopted in previous studies (e.g. Peterson & Kwong, 1981; Lam & Leung, 1994; Evans & Yu, 2001). The IDF curves derived using Gumbel distribution are compared with those given in GCO (1984).

In recent years, the generalized extreme value (GEV) distribution is gaining popularity amongst scientists and meteorologists, which can provide a better representation of extreme values. Frequency analysis based on GEV distribution model was also carried out and a likelihood ratio test was conducted to determine the suitability of using GEV distribution for the data recorded in the GEO raingauges.

2 Compilation of Rainfall Data

The GEO has been operating a network of automatic raingauges since 1984, which collect 5-minute rainfall data round the clock. The system comprises 86 GEO raingauges installed over Hong Kong. While some of the raingauges were installed in or after 1999, a total of 43 GEO raingauges have some 26 years of records. The locations of these raingauges are shown in Figure 2.1 and their coordinates and elevations are given in Table 2.1. Frequency analysis was carried out to determine the extreme rainfall intensity.

The rainfall data used in the frequency analysis were first compiled and checked to ensure that only reliable data would be used. Suspiciously high rainfall value in isolated raingauges (e.g. 5-min rainfall greater than 20 mm was recorded at isolated locations, whereas the adjacent raingauges did not show any rainfall), were examined in detail by HKO and GEO. The rainfall pattern was compared with radar imageries taken during the same period and erroneous rainfall readings were removed. However, some precipitation records are found to be incomplete when preparing the data for analysis. The missing records may be estimated using suitable interpolation methods based on reference to simultaneous records at nearby stations. In this study, the rainfall for any 5-minute intervals that had no value recorded or had been removed because it was deemed to be erroneous, was replaced by an interpolated rainfall value determined by means of the kriging method. This method is one of the most frequently used and efficient methods for spatial interpolation of rainfall data (e.g. Teegavarapu & Chandramouli, 2005; Ruelland et al, 2008). This process seeks to ensure that the rolling maximum rainfall of different durations would be determined based on a complete record and would not be under-estimated.

About 20,000 rainfall data from 43 GEO raingauges were used in the frequency analysis (Appendix F). The rolling annual maxima for different durations were computed for the period of 1984 to 2009. The rainfall durations considered in the present analysis range from 5 minutes to 31 days, i.e. 5-min, 10-min, 15-min, 30-min, 1-hr, 2-hr, 4-hr, 6-hr,

Table 2.1 Coordinates and Elevations of the 43 GEO Raingauges (Sheet 1 of 2)

No.	Location	Area	Co-ordinates		Reduced Level (mPD)
			Easting	Northing	
H01	St. Clare's Girls' School, 50 Mount Davis Road	Mo Sing Leng	830607	814883	107
H02	Block C & D, Kwun Lung Lau Estate, Lung Wah Street	Kennedy Town	831226	815748	95
H03	Block 44, Baguio Villa	Mount Davis	831790	813592	132
H04	Knowles Building, University of Hong Kong	Pokfulam	832306	816024	123
H05	Aberdeen Treatment Works, Aberdeen Reservoir Road	Aberdeen	834419	812672	103
H06	St. Margaret College, 1E Shiu Fai Terrace	Wan Chai	836209	814939	88
H07	South China Athletic Assn. Stadium, Caroline Hill Road	Causeway Bay	837298	815215	94
H08	Eastern Treatment Works, Stubbs Road	Happy Valley	837130	813918	129
H09	Kiangsu Chekiang College, 20 Braemar Hill Road	North Point	838742	816479	160
H10	Peak Wireless Station, Mount Austin Road	Victoria Peak	832933	815160	530
H12	Buxey Lodge, 37 Conduit Road	Mid-Level	833267	815761	188
H14	Wo Hing House, Hing Wah Estate	Chai Wan	842086	813774	141
H15	St. Stephen’s College, Tung Tau Wan Road	Stanley	840282	808518	50
H16	Peak Primary School, 20 Plunkett’s Road	The Peak	833767	814303	439
H17	Magazine Gap Road Fresh Water Pumping Station	Mid-Level	834950	814765	200
H18	Shanghai Alumni Primary School, 14 Hong Shing Street, Kornhill	Quarry Bay	840253	815878	77
H19	Salesian English School, 16 Chai Wan Road	Shau Kei Wan	841655	815228	53
H20	Block 1-C2 Lei Chak House, Ap Lei Chau Estate	Ap Lei Chau	833516	811763	104
H21	Block B, 101 Repulse Bay Road	Repulse Bay	838069	811197	139
K01	Civil Engineering and Development Building, 101 Princess Margaret Road	Homantin	836346	819525	91
K02	Block 25, Lung Cheung Court, 15-17 Broadcast Drive	Kowloon Tong	836480	822656	92

Table 2.1 Coordinates and Elevations of the 43 GEO Raingauges (Sheet 2 of 2)

No.	Location	Area	Co-ordinates		Reduced Level (mPD)
			Easting	Northing	
K03	PMG Radio Monitoring Station, Hong Ning Road	Kwun Tong	841188	819957	91
K04	Lee Cheung House, Shun Lee Estate, Lee On Road	Choi Hung	841237	821549	178
K05	Ko Chi House, Ko Yee Estate	Yau Tong	842912	817594	117
K06	Carnation House, So Uk Estate	So Uk	834278	822543	82
K07	Wing C, Ching Tak House, Tsz Ching Estate	Tsz Wan Shan	838661	823562	197
K08	FDBWA Szeto Ho Secondary School, 7 Kai Tin Road	Lam Tin	842255	818602	77
N01	Administration Block, Shatin Water Treatment Works	Shatin	835412	824706	38
N02	Shun Wo House, Wo Che Estate	Shatin	838019	827550	73
N03	Tsuen Wan Treatment Works, Shing Mun Road	North Tsuen Wan	831354	826091	113
N04	Kai Kwong Lau, Cho Yiu Estate	Kwai Chung	831444	822913	96
N05	Cheung Chi House, Cheung Wah Estate	Fanling	832596	839416	111
N06	C.N.E.C. Christian College, 6 Lei Pui Street, Shek Lei	Kwai Chung	832387	824958	106
N07	Tuen Mun Technical Institute, Tsing Wun Road	Tuen Mun	814598	828219	41
N08	Staff Quarter (Block C), Pik Uk Prison, Clearwater Bay	Sai Kung	843344	822264	256
N09	Meteorology Laboratory, Chinese University, Tai Po Road	Shatin	839925	830675	6
N10	Emmanuel Primary School, 13 Miles, Castle Peak Road	Sham Tseng	824255	825495	35
N11	Tsing Yi South Fire Station, Tsing Yi Road	Tsing Yi	827699	821980	40
N12	Hong Shui House, Shui Pin Wai Estate	Yuen Long	820220	834088	79
N13	Yuen Ng Fan, High Island Reservoir	Sai Kung	852916	826527	87
N14	Wireless Station, Tai Mo Shan, Tai Mo Shan Road	Tsuen Wan	830856	830180	944
N15	Sung Tsun Secondary School, Yau Ma Po, Po Tung Road	Sai Kung	845889	827047	41
N16	Tak Chi House, Hau Tak Estate	Tseung Kwan O	845360	819890	114

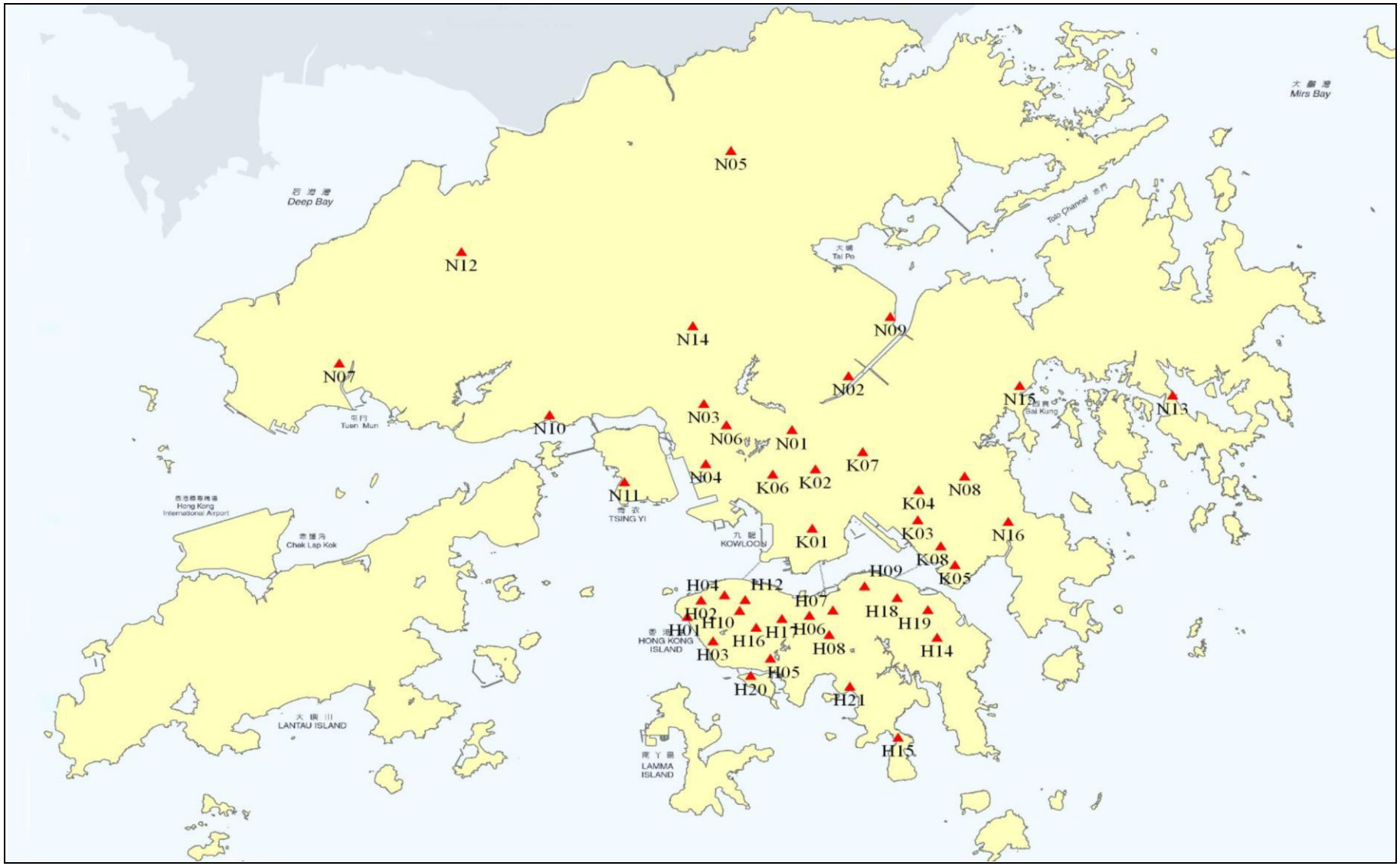

Figure 2.1 Locations of 43 GEO Raingauges with about 26 Years of Rainfall Records

8-hr, 12-hr, 18-hr, 1-day, 2-day, 3-day, 4-day, 5-day, 7-day, 15-day and 31-day respectively.

3 Methodology for Modelling Rainfall Frequency Distribution Based on Annual Maximum Rainfall

3.1 Modelling of Annual Rainfall Maxima Frequency Distribution

The extreme value theory deals with the limiting distributions of a large collection of random variables. According to the theory, the maxima and minima of a block of observations will converge to three types of distributions, namely Type I, Type II and Type III extreme value distributions (Figure 3.1). Alternatively, these are known as Gumbel, Fréchet and Weibull distributions respectively. The mathematical formulations of these three extreme value distribution models are given in Appendix A. The three types of distribution have distinct forms to describe the tail behaviour (i.e. maxima or minima values). The Fréchet and Gumbel distributions have infinite variables but different rates of decay in the upper tail of the distribution, i.e. the Gumbel distribution decays exponentially, whereas the Fréchet distribution follows a polynomial decay. Figure 3.1 shows that the differing shapes of the upper tails give quite different representation of the extreme value behaviour. Gumbel and Fréchet distributions have been found to be more suited in modelling the frequency distributions of extreme rainfall values (e.g. Kharin & Zwiers, 2005; Feng et al, 2007), because both of them are able to represent the "heavy-tail" behaviour of extreme rainfall distribution. On the other hand, the Weibull distribution is generally adopted for some hydrological problems, such as drought flows (Chow et al, 1988).

Traditionally, the Gumbel distribution is adopted for the frequency analysis of meteorological data (e.g. extreme rainfall, temperature, etc.). The frequency analyses of extreme rainfall intensities in Hong Kong undertaken by previous researchers, the Gumbel distribution was adopted, e.g. Peterson & Kwong (1981); Lam & Leung (1994); Evans & Yu (2003); and Wong & Mok (2009). The common use of the Gumbel distribution can be attributed to the simplicity of its mathematical formulation and its high accuracy in estimating the statistical parameters (Koutsoyiannis, 2004).

Notwithstanding its frequent use, it should be borne in mind that the application of extreme value theory suffers from some inherent limitations (Coles, 2001). For example, the Gumbel distribution may be liable to underestimate the extreme rainfall intensities for long return periods (Baloutsos, 2000; Koutsoyiannis, 2004). In applying the extreme value theory, a prior decision needs to be made in determining the type of extreme distribution model that is most suited for the data to be analysed. Once the model is chosen, there is no adjustment or correction made to allow for the uncertainty in the goodness of fit of the observed data with the assumed model. In practice, sensitivity analyses maybe carried out using different distribution models.

In recent years, the GEV distribution is gaining popularity, as it can describe the above three types of extreme distribution models using a single mathematical expression (Jenkinson, 1955). The expression used in GEV is as follow:

$$G(z) = \exp\left\{-\left[1+\xi\left(\frac{z-\mu}{\sigma}\right)\right]^{-1/\xi}\right\} \quad \text{.....(3.1)}$$

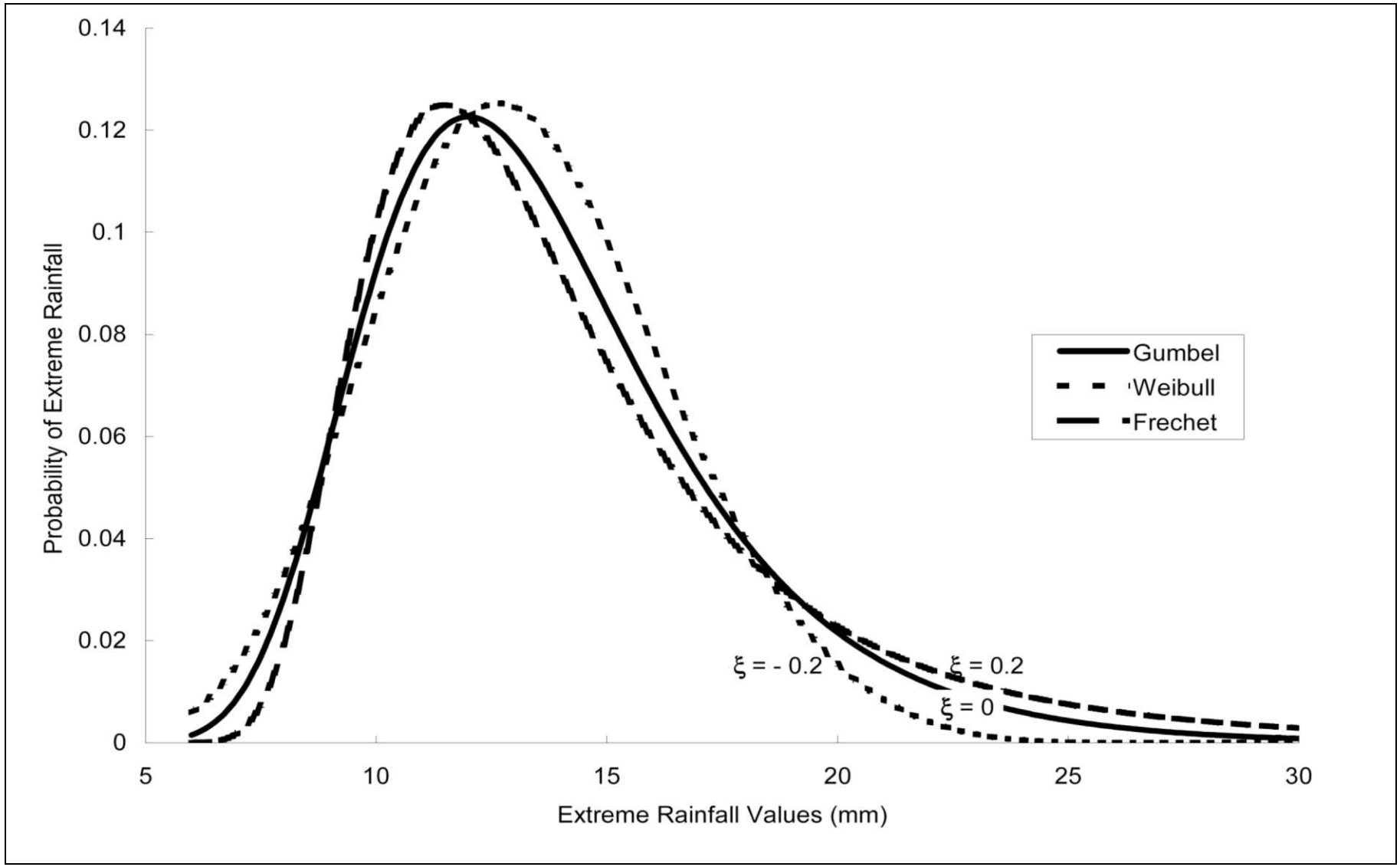

Figure 3.1 Diagrammatic Plot of Generalized Extreme Value (GEV) Distribution

It can be seen from the above that the GEV distribution is controlled by three statistical parameters, viz. a location parameter μ, a scale parameter σ and a shape parameter ξ. In particular, the shape parameter dictates the type of distribution with a distinct form of upper tail behaviour, i.e. Gumbel (Type I, $\xi = 0$), Fréchet (Type II, $\xi > 0$), and Weibull (Type III, $\xi < 0$) respectively. Through the influence on ξ, the data themselves determine the most appropriate type of tail behaviour and preclude the necessity to make a prior judgment on the appropriate type of extreme value distribution. The three statistical parameters are determined by means of the method of Maximum Likelihood (ML). ML is considered to be a general and flexible method of estimating the statistical parameters (Coles, 2001). This method is commonly adopted by academics and researchers, e.g. Wong & Mok (2009); Feng et al (2007); Kharin & Zwiers (2005), etc. More details on the corresponding mathematical formulation are given in Appendix A.

3.2 Selection of Distribution Models

The optimal distribution model is a simple model that can reasonably fit the observed data. The GEV distribution is a more sophisticated model than Gumbel distribution, as it has an additional statistical parameter (i.e. ξ). The use of a more sophisticated model may bring about significant improvement if sufficient data were available that could be used to derive statistically meaningful results. Such improvement may be quantified by the likelihood ratio test (see Appendix A). A comparison was made of the Gumbel and GEV distributions to examine the advantages of using a more sophisticated model (i.e. GEV distribution) in the frequency analysis, making reference to the results of the likelihood ratio test, as given in Appendix B.

The suitability of a distribution model to describe a series of random variables may also be verified by a goodness-of-fit test, such as the chi-square method, the Kolmogorov-Smirnov (K-S) method, or the Anderson-Darling (A-D) method (Ang & Tang, 2007). For frequency analysis of extreme values, the goodness-of-fit test of a distribution model typically involves presenting the data in a probability plot or a quantile plot (Coles, 2001), which depicts the degree of agreement of the model with the data. The probability plot shows the correlation between the empirical probability (i.e. arranging the extreme values in ascending order and assigning a cumulative probability of m/(N+1) to the m^{th} value) and the corresponding model-based (e.g. Gumbel or GEV) estimate of the probability. The quantile plot is a plot of the observed quantile versus the predicted quantile using the fitted model. Substantial departure of data points from the unit diagonal in the probability and quantile plots, in particular at the position of the upper range of extreme values would indicate the inability of the corresponding distribution model to representation of the frequency distributions of the extreme event.

Apart from the probability plot and quantile plot, the return level plot is another graphical method of a goodness-of-fit check of model validity. It compares the empirical estimates (i.e. extreme rainfall values corresponding to the empirical probability) with the model estimates (i.e. extreme rainfall values determined by the fitted Gumbel or GEV parameters) of the return level values (i.e. the extreme rainfall intensity in the present study) against the return periods in a logarithmic scale, to see if these two estimates are in reasonable agreement. More explanations of the above diagnostic plots are given in Appendix A.

In this study, the probability plots, the quantile plots and the return level plots were all prepared to examine the applicability of the Gumbel and GEV distributions respectively in estimating the extreme rainfall intensities (see Section 4.2).

3.3 Intensity-Duration-Frequency Curves

For engineering applications, it is common practice to present the extreme rainfall intensities as IDF Curves. The extreme rainfall intensities for different combinations of durations and return periods are determined using the statistical parameters obtained by fitting a Gumbel distribution or GEV distribution to the annual maximum rainfall for different durations. The extreme values derived from the Gumbel distribution are given in Appendix C for the 43 GEO raingauges.

Lam & Leung (1994) used the Wisner's formula to derive the IDF curves for different return periods, which is expressed in the following form:

$$I = \frac{a}{(t+b)^c} \quad \text{.....(3.2)}$$

where I = extreme rainfall intensity in mm/hr
t = duration in minutes
a, b, c = constants that are dependent on the return period

A similar formulation is used in the present study to derive the IDF curves for different return periods for the 43 GEO raingauges. Koutsoyiannis (1998) suggested that families of IDF curves in practice can be well described with constant values of b and c. In order to avoid masking the relationship between I and t, the upper-bound of the b-value is set at 5 in the analysis. Such an assumed upper-bound is in line with the range of b-values adopted by both Peterson & Kwong (1981) and Lam & Leung (1994). The Wisner constants a and c were then determined such that the derived IDF curves would be the best-fit curves based on a linear regression of the extreme rainfall intensity. The IDF curves for return periods ranging from 2 years to 1,000 years were computed. Table 3.1 gives the computed Wisner constants, and Appendix D presents the IDF curves for the 43 GEO raingauges in a graphical form. It should be noted that for durations shorter than 5 minutes, the IDF curves are extrapolated by using the Wisner's constants fitted on the basis of 5-minute rainfall data.

As noted by Bell & Chin (1968), rainstorms of short durations are usually caused by thunderstorms whereas those of longer durations are likely to be generated by synoptic rain, such as a low-depression trough. For storms spanning from 360 minutes to 720 minutes, the extreme rainfall was usually contributed by both types of storms and the actual rainfall was typically higher than that predicted by the Gumbel distribution. Bell & Chin (*op cit.*) further observed that for rainstorm durations of less than 360 minutes or greater than 720 minutes, the extreme rainfall intensities would approximately lie on a straight line using the Gumbel distribution. In view of the above, in fitting the Wisner's formulation, only those extreme rainfall intensities with durations ranging from 5 minutes to 240 minutes were used in the present study.

Table 3.1 Wisner's Constants *a, b, c* for the 43 GEO Raingauges (Sheet 1 of 2)

Raingauge No.	Rainstorm Return Periods																										
	2-year			5-year			10-year			20-year			50-year			100-year			200-year			500-year			1000-year		
	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c
H01	564.73	5.0	-0.52	623.65	5.0	-0.48	668.25	5.0	-0.47	713.29	5.0	-0.45	773.67	5.0	-0.44	819.96	5.0	-0.43	866.71	5.0	-0.42	929.10	5.0	-0.42	976.65	5.0	-0.41
H02	536.55	5.0	-0.51	595.85	5.0	-0.48	639.72	5.0	-0.46	683.71	5.0	-0.45	742.41	5.0	-0.44	787.29	5.0	-0.43	832.55	5.0	-0.42	892.88	5.0	-0.42	938.83	5.0	-0.41
H03	528.83	5.0	-0.52	610.85	5.0	-0.48	667.98	5.0	-0.47	723.96	5.0	-0.46	797.51	5.0	-0.45	853.19	5.0	-0.44	908.99	5.0	-0.44	983.01	5.0	-0.43	1039.17	5.0	-0.43
H04	518.10	5.0	-0.50	569.21	5.0	-0.46	607.46	5.0	-0.44	646.01	5.0	-0.43	697.65	5.0	-0.42	737.24	5.0	-0.41	777.22	5.0	-0.41	830.60	5.0	-0.40	871.31	5.0	-0.39
H05	526.40	5.0	-0.51	559.91	5.0	-0.46	587.51	5.0	-0.44	616.31	5.0	-0.43	655.79	5.0	-0.41	686.52	5.0	-0.40	717.84	5.0	-0.39	759.95	5.0	-0.38	792.25	5.0	-0.38
H06	477.12	5.0	-0.49	574.66	5.0	-0.47	640.20	5.0	-0.46	703.49	5.0	-0.45	785.79	5.0	-0.45	847.67	5.0	-0.45	909.45	5.0	-0.44	991.10	5.0	-0.44	1052.89	5.0	-0.44
H07	532.64	5.0	-0.51	572.53	5.0	-0.48	603.57	5.0	-0.46	635.34	5.0	-0.44	678.38	5.0	-0.43	711.62	5.0	-0.42	745.35	5.0	-0.41	790.55	5.0	-0.40	825.12	5.0	-0.40
H08	516.48	5.0	-0.51	568.29	5.0	-0.47	606.65	5.0	-0.46	645.16	5.0	-0.44	696.65	5.0	-0.43	736.08	5.0	-0.42	775.87	5.0	-0.42	828.95	5.0	-0.41	869.41	5.0	-0.41
H09	548.01	5.0	-0.51	641.65	5.0	-0.49	704.58	5.0	-0.48	765.36	5.0	-0.47	844.44	5.0	-0.46	903.92	5.0	-0.46	963.32	5.0	-0.46	1041.83	5.0	-0.45	1101.27	5.0	-0.45
H10	523.18	5.0	-0.49	579.46	5.0	-0.46	620.82	5.0	-0.44	662.20	5.0	-0.43	717.40	5.0	-0.42	759.59	5.0	-0.41	802.14	5.0	-0.40	858.84	5.0	-0.40	902.04	5.0	-0.39
H15	488.26	5.0	-0.48	542.84	5.0	-0.45	582.12	5.0	-0.44	621.15	5.0	-0.42	672.97	5.0	-0.41	712.48	5.0	-0.41	752.25	5.0	-0.40	805.21	5.0	-0.39	845.50	5.0	-0.39
H12	481.96	5.0	-0.49	508.49	5.0	-0.45	531.73	5.0	-0.43	556.40	5.0	-0.41	590.60	5.0	-0.40	617.39	5.0	-0.39	644.78	5.0	-0.38	681.74	5.0	-0.37	710.14	5.0	-0.36
H14	573.97	5.0	-0.53	614.89	5.0	-0.48	648.64	5.0	-0.46	683.75	5.0	-0.45	731.76	5.0	-0.43	769.03	5.0	-0.42	806.95	5.0	-0.41	857.87	5.0	-0.40	896.87	5.0	-0.40
H16	532.14	5.0	-0.50	583.49	5.0	-0.46	622.55	5.0	-0.45	662.09	5.0	-0.43	715.23	5.0	-0.42	756.04	5.0	-0.41	797.29	5.0	-0.40	852.40	5.0	-0.40	894.45	5.0	-0.39
H17	522.00	5.0	-0.50	565.83	5.0	-0.46	599.82	5.0	-0.44	634.51	5.0	-0.43	681.38	5.0	-0.41	717.50	5.0	-0.40	754.10	5.0	-0.40	803.08	5.0	-0.39	840.50	5.0	-0.38
H18	468.37	5.0	-0.48	541.49	5.0	-0.46	590.54	5.0	-0.45	637.90	5.0	-0.45	699.51	5.0	-0.44	745.84	5.0	-0.44	792.11	5.0	-0.43	853.29	5.0	-0.43	899.59	5.0	-0.43
H19	498.55	5.0	-0.50	561.98	5.0	-0.47	605.71	5.0	-0.46	648.46	5.0	-0.45	704.58	5.0	-0.45	747.06	5.0	-0.44	789.64	5.0	-0.44	846.14	5.0	-0.43	889.02	5.0	-0.43
H20	499.69	5.0	-0.51	532.59	5.0	-0.46	559.66	5.0	-0.44	587.87	5.0	-0.43	626.50	5.0	-0.41	656.54	5.0	-0.40	687.13	5.0	-0.39	728.26	5.0	-0.38	759.78	5.0	-0.38
H21	528.80	5.0	-0.53	606.99	5.0	-0.50	660.68	5.0	-0.49	713.03	5.0	-0.48	781.61	5.0	-0.48	833.43	5.0	-0.47	885.33	5.0	-0.47	954.10	5.0	-0.46	1006.26	5.0	-0.46
K01	421.87	5.0	-0.46	478.73	5.0	-0.42	520.48	5.0	-0.40	562.12	5.0	-0.39	617.45	5.0	-0.37	659.61	5.0	-0.37	702.03	5.0	-0.36	758.47	5.0	-0.35	801.39	5.0	-0.35
K02	450.34	5.0	-0.46	451.84	5.0	-0.40	461.04	5.0	-0.37	473.25	5.0	-0.35	492.19	5.0	-0.33	507.98	5.0	-0.32	524.67	5.0	-0.31	547.79	5.0	-0.29	565.90	5.0	-0.29
K03	468.84	5.0	-0.48	520.22	5.0	-0.45	558.20	5.0	-0.43	596.27	5.0	-0.42	647.06	5.0	-0.41	685.90	5.0	-0.40	725.07	5.0	-0.39	777.27	5.0	-0.39	817.04	5.0	-0.38
K04	454.54	5.0	-0.47	531.81	5.0	-0.46	583.55	5.0	-0.45	633.46	5.0	-0.45	698.34	5.0	-0.44	747.11	5.0	-0.44	795.80	5.0	-0.44	860.14	5.0	-0.44	908.84	5.0	-0.43

Table 3.1 Wisner's Constants *a, b, c* for the 43 GEO Raingauges (Sheet 2 of 2)

Raingauge No.	Rainstorm Return Periods																										
	2-year			5-year			10-year			20-year			50-year			100-year			200-year			500-year			1000-year		
	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c
K05	529.99	5.0	-0.51	550.26	5.0	-0.46	570.84	5.0	-0.43	593.56	5.0	-0.42	625.80	5.0	-0.40	651.39	5.0	-0.39	677.77	5.0	-0.38	713.57	5.0	-0.37	741.20	5.0	-0.36
K06	493.71	5.0	-0.49	528.54	5.0	-0.44	557.48	5.0	-0.42	587.65	5.0	-0.41	628.92	5.0	-0.39	660.98	5.0	-0.38	693.59	5.0	-0.37	737.40	5.0	-0.36	770.94	5.0	-0.36
K07	420.78	5.0	-0.46	478.34	5.0	-0.43	518.71	5.0	-0.41	558.38	5.0	-0.40	610.65	5.0	-0.39	650.29	5.0	-0.39	690.08	5.0	-0.38	742.89	5.0	-0.38	783.00	5.0	-0.37
K08	488.57	5.0	-0.49	540.79	5.0	-0.46	578.96	5.0	-0.45	617.09	5.0	-0.43	667.90	5.0	-0.42	706.71	5.0	-0.41	745.84	5.0	-0.41	797.99	5.0	-0.40	837.70	5.0	-0.40
N01	456.65	5.0	-0.46	498.83	5.0	-0.42	530.84	5.0	-0.40	563.26	5.0	-0.39	606.83	5.0	-0.38	640.31	5.0	-0.37	674.17	5.0	-0.36	719.41	5.0	-0.35	753.94	5.0	-0.35
N02	468.04	5.0	-0.48	481.93	5.0	-0.44	495.96	5.0	-0.42	511.61	5.0	-0.40	534.06	5.0	-0.39	552.03	5.0	-0.38	570.67	5.0	-0.37	596.11	5.0	-0.36	615.84	5.0	-0.35
N03	492.26	5.0	-0.50	567.10	5.0	-0.47	618.49	5.0	-0.46	668.57	5.0	-0.46	734.18	5.0	-0.45	783.73	5.0	-0.44	833.36	5.0	-0.44	899.11	5.0	-0.43	948.98	5.0	-0.43
N04	525.09	5.0	-0.51	650.59	5.0	-0.50	733.93	5.0	-0.50	813.99	5.0	-0.49	917.72	5.0	-0.49	995.51	5.0	-0.49	1073.05	5.0	-0.49	1175.39	5.0	-0.48	1252.77	5.0	-0.48
N05	435.14	5.0	-0.50	548.01	5.0	-0.49	623.19	5.0	-0.49	695.51	5.0	-0.49	789.28	5.0	-0.48	859.65	5.0	-0.48	929.81	5.0	-0.48	1022.44	5.0	-0.48	1092.48	5.0	-0.48
N06	514.91	5.0	-0.49	596.74	5.0	-0.46	653.63	5.0	-0.45	709.32	5.0	-0.44	782.45	5.0	-0.43	837.78	5.0	-0.43	893.23	5.0	-0.42	966.75	5.0	-0.42	1022.53	5.0	-0.41
N07	426.10	5.0	-0.49	470.82	5.0	-0.45	504.79	5.0	-0.44	539.09	5.0	-0.42	585.06	5.0	-0.41	620.29	5.0	-0.41	655.86	5.0	-0.40	703.31	5.0	-0.39	739.47	5.0	-0.39
N08	458.90	5.0	-0.48	485.66	5.0	-0.45	506.69	5.0	-0.43	528.38	5.0	-0.42	557.99	5.0	-0.40	580.99	5.0	-0.39	604.42	5.0	-0.39	635.94	5.0	-0.38	660.12	5.0	-0.37
N09	464.37	5.0	-0.47	534.51	5.0	-0.45	582.20	5.0	-0.45	628.52	5.0	-0.44	689.03	5.0	-0.43	734.67	5.0	-0.43	780.33	5.0	-0.42	840.79	5.0	-0.42	886.62	5.0	-0.42
N10	503.64	5.0	-0.51	558.72	5.0	-0.47	600.14	5.0	-0.45	641.83	5.0	-0.44	697.61	5.0	-0.42	740.31	5.0	-0.41	783.40	5.0	-0.41	840.85	5.0	-0.40	884.63	5.0	-0.39
N11	471.54	5.0	-0.49	516.78	5.0	-0.45	549.66	5.0	-0.43	582.50	5.0	-0.42	626.27	5.0	-0.41	659.74	5.0	-0.40	693.50	5.0	-0.39	738.51	5.0	-0.39	772.82	5.0	-0.38
N12	526.33	5.0	-0.53	591.44	5.0	-0.49	638.79	5.0	-0.48	685.92	5.0	-0.47	748.52	5.0	-0.46	796.23	5.0	-0.45	844.24	5.0	-0.45	908.14	5.0	-0.44	956.75	5.0	-0.44
N13	515.69	5.0	-0.49	639.49	5.0	-0.48	721.85	5.0	-0.48	801.02	5.0	-0.47	903.67	5.0	-0.47	980.68	5.0	-0.47	1057.46	5.0	-0.47	1158.82	5.0	-0.46	1235.46	5.0	-0.46
N14	587.75	5.0	-0.49	750.51	5.0	-0.48	859.18	5.0	-0.47	963.77	5.0	-0.47	1099.48	5.0	-0.46	1201.34	5.0	-0.46	1302.92	5.0	-0.46	1437.05	5.0	-0.46	1538.48	5.0	-0.45
N15	501.69	5.0	-0.50	561.70	5.0	-0.48	603.11	5.0	-0.47	643.61	5.0	-0.46	696.83	5.0	-0.45	737.13	5.0	-0.45	777.55	5.0	-0.45	831.19	5.0	-0.44	871.92	5.0	-0.44
N16	492.77	5.0	-0.50	574.41	5.0	-0.48	629.98	5.0	-0.47	683.95	5.0	-0.46	754.46	5.0	-0.45	807.62	5.0	-0.45	860.80	5.0	-0.44	931.19	5.0	-0.44	984.53	5.0	-0.43

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4 Discussion of Results of Frequency Analyses

4.1 Sufficiency of GEO Raingauge Data

The diagnostic plots (i.e. probability plot, quantile plot and return level plot) of both Gumbel and GEV distributions of Raingauge No. N06 are shown in Figures 4.1, 4.2 and 4.3 respectively to illustrate the relative suitability of these two distribution models for the available GEO raingauge data. For both types of distributions, it may be seen that individual data points depart notably from the unit diagonals in the probability (Figure 4.1) and quantile plots (Figure 4.2). Individual data points are also located very close to the upper limit of 95% confidence level in the return level plots (Figure 4.3). In some other raingauges, the individual data points extend beyond the 95% confidence level limit. These observations probably reflect the problem of a limited observation period for the frequency analysis and that the fitted model may be dominated by the individual outlying data points. In particular,the GEV distribution uses 3 statistical parameters and correspondingly more data points are required to achieve a good statistical fit as compared to the Gumbel model. Koutsoyiannis (2004) stated that typical annual maximum rainfall series ranging from 20 years to 50 years might mask the actual frequency distribution of the extreme rainfall.

As mentioned in Section 3.1, the Fréchet and Gumbel distributions are commonly used for modelling extreme rainfall intensities that have a distinct form of "heavy tail" characteristic in the distribution. However, the frequency analysis of the 817 cases (i.e. rainfall for 19 different durations at 43 raingauges) based on the GEV distribution indicates that about half of the cases follow the Weibull distribution (i.e. $\xi < 0$), i.e. a "light tail" with an upper bound. Such results are inconsistent with the general observations for the distribution of extreme rainfall intensities. Moreover, the extreme rainfall data of individual raingauges follow both Weibull and Fréchet distributions, depending on the rainstorm duration. For instance, the data of Raingauge No. K08 follow a Weibull distribution for rainfall durations of 5-min, 10-min and 15-min, but the data follow a Fréchet distribution for durations of 30-min, 1-hr and 2-hr. On closer examination of the corresponding statistical parameters of the rainfall data for the 43 raingauges using the GEV distribution model, the following observations can be made:

(a) The values of r^2 in the regression analysis of IDF curve-fitting for the determination of Wisner constants based on Gumbel distribution are generally very close to 1, and mostly greater than 0.95. However, the corresponding values based on the GEV distribution are lower, with an extreme case being as low as 0.05. This suggests that the data points do not lie close to the best-fit line of the GEV model and that the fitted results have large cumulative errors. It is therefore doubtful that the corresponding IDF curves could provide a reliable estimate of the extreme rainfall intensities.

(b) In some cases, the extreme rainfall intensities of longer rainstorm durations are apparently greater than those of shorter rainstorm durations, which is not rational. This implies that the fitted GEV distributions for different

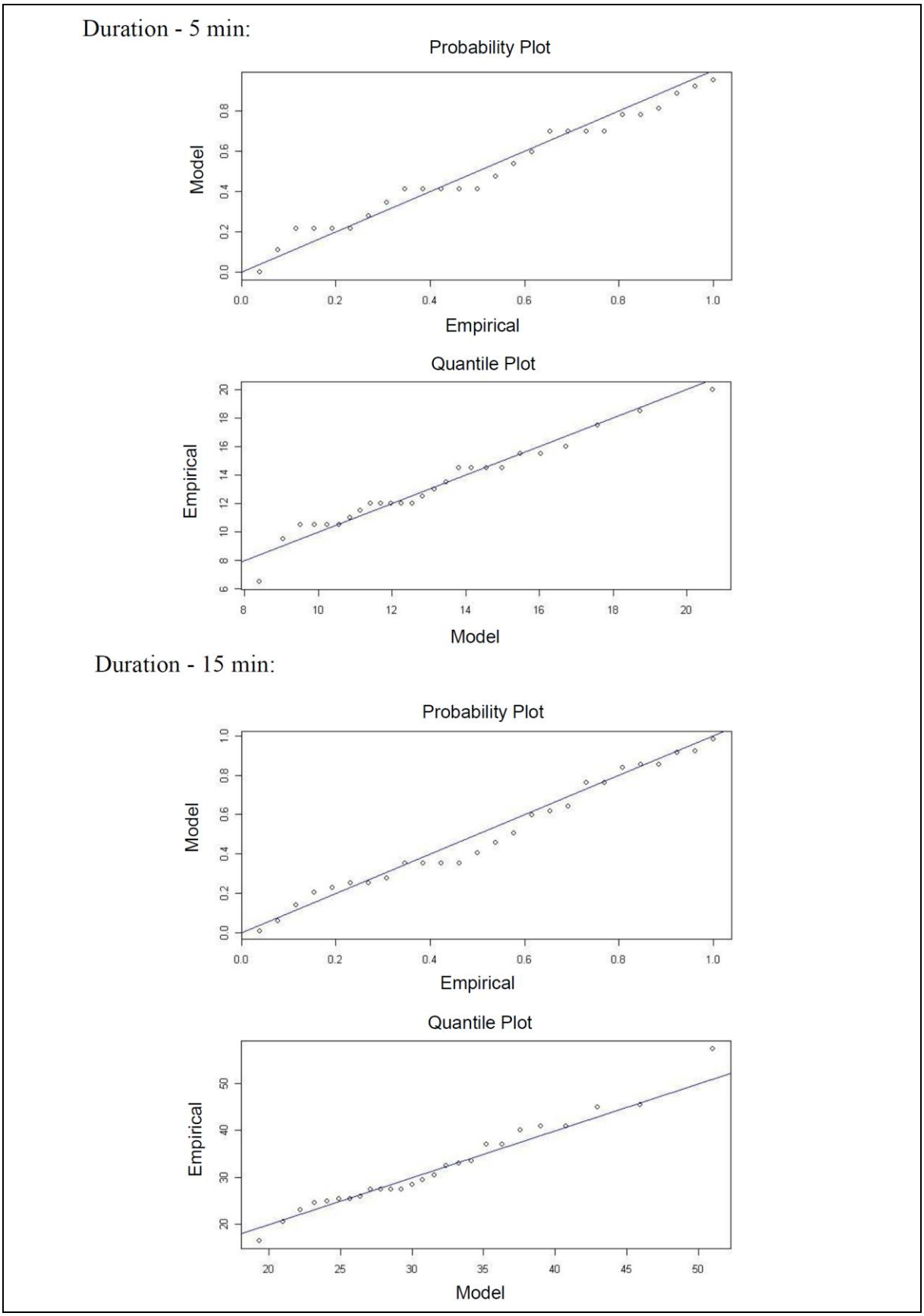
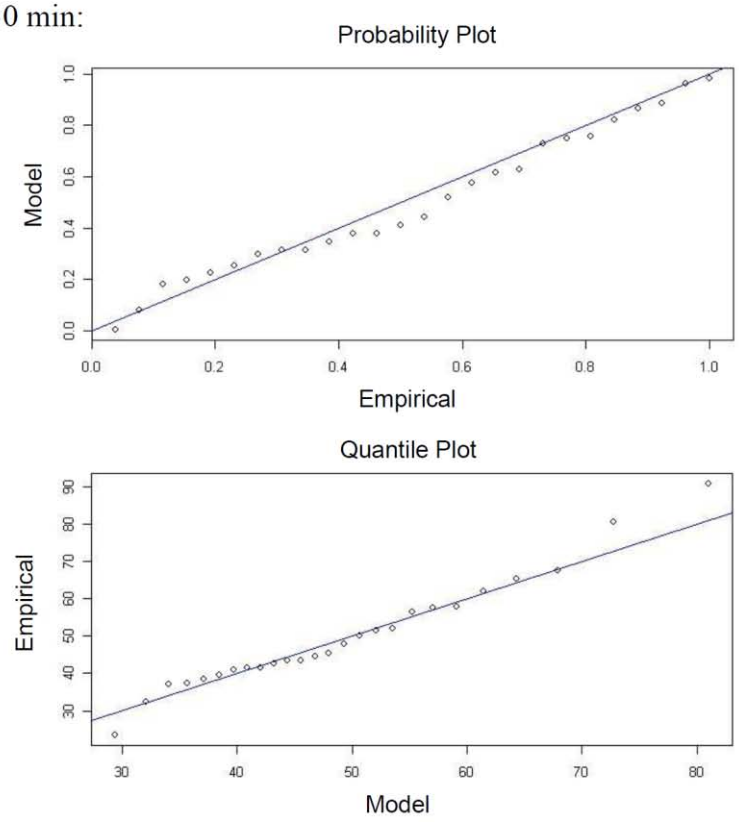


Figure 4.1 Probability Plots and Quantile Plots for Frequency Analysis of Rainfall Data Recorded at GEO Raingauge N06 (Gumbel Distribution) (Sheet 1 of 2)

Duration - 30 min:



Duration - 1 hour:

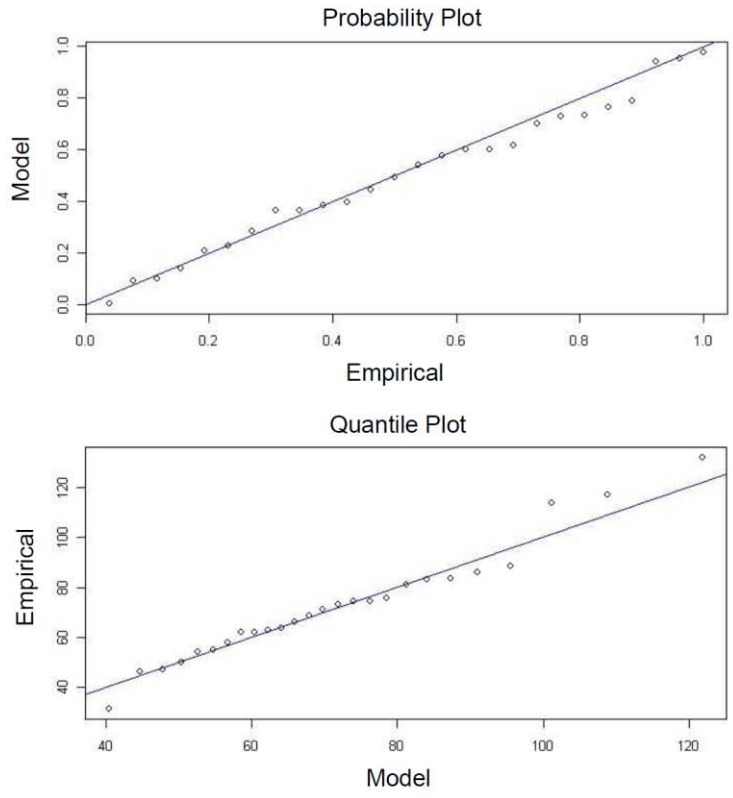


Figure 4.1 Probability Plots and Quantile Plots for Frequency Analysis of Rainfall Data Recorded at GEO Raingauge N06 (Gumbel Distribution) (Sheet 2 of 2)

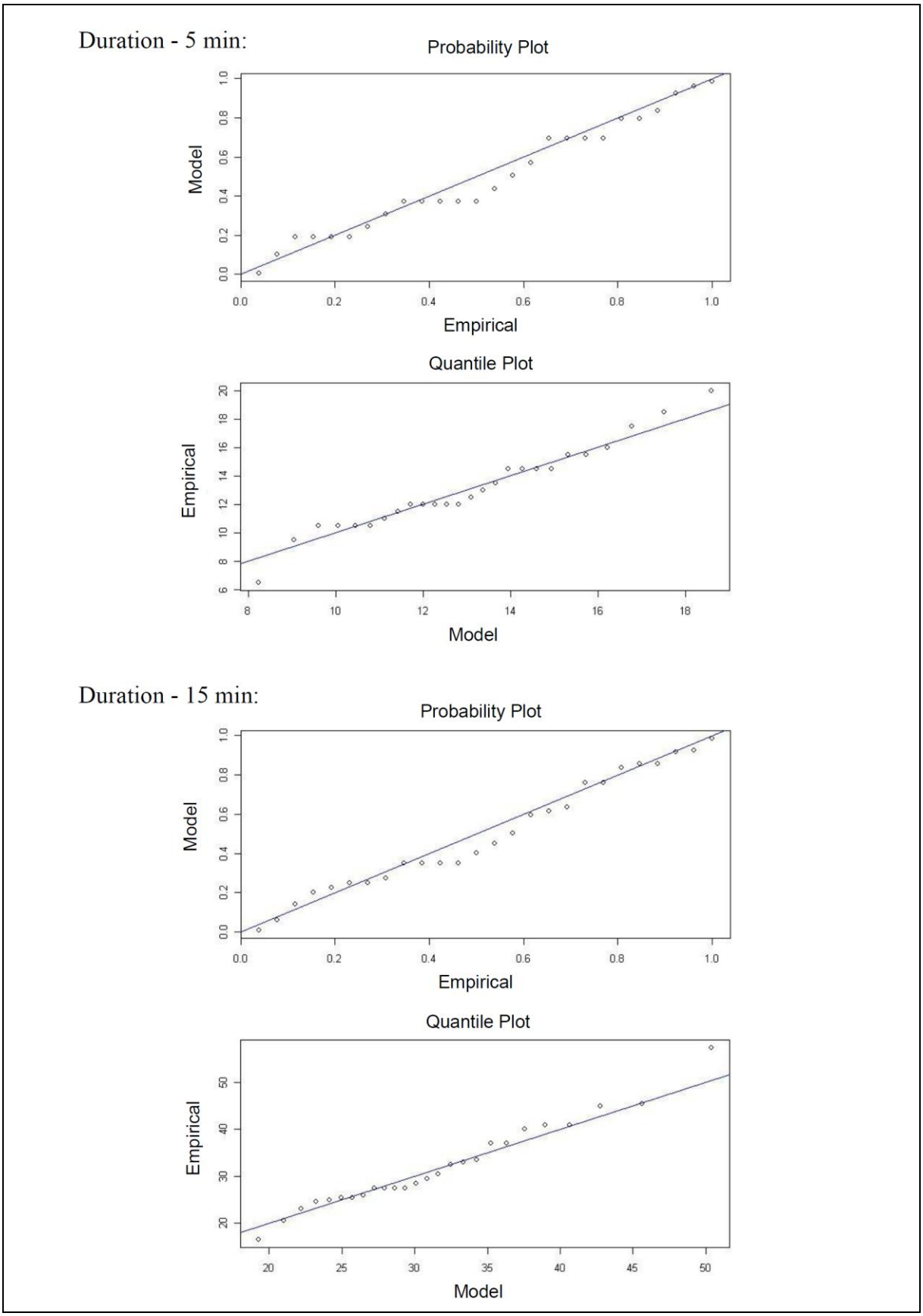


Figure 4.2 Probability Plots and Quantile Plots for Frequency Analysis of Rainfall Data Recorded at GEO Raingauge N06 (GEV Distribution) (Sheet 1 of 2)

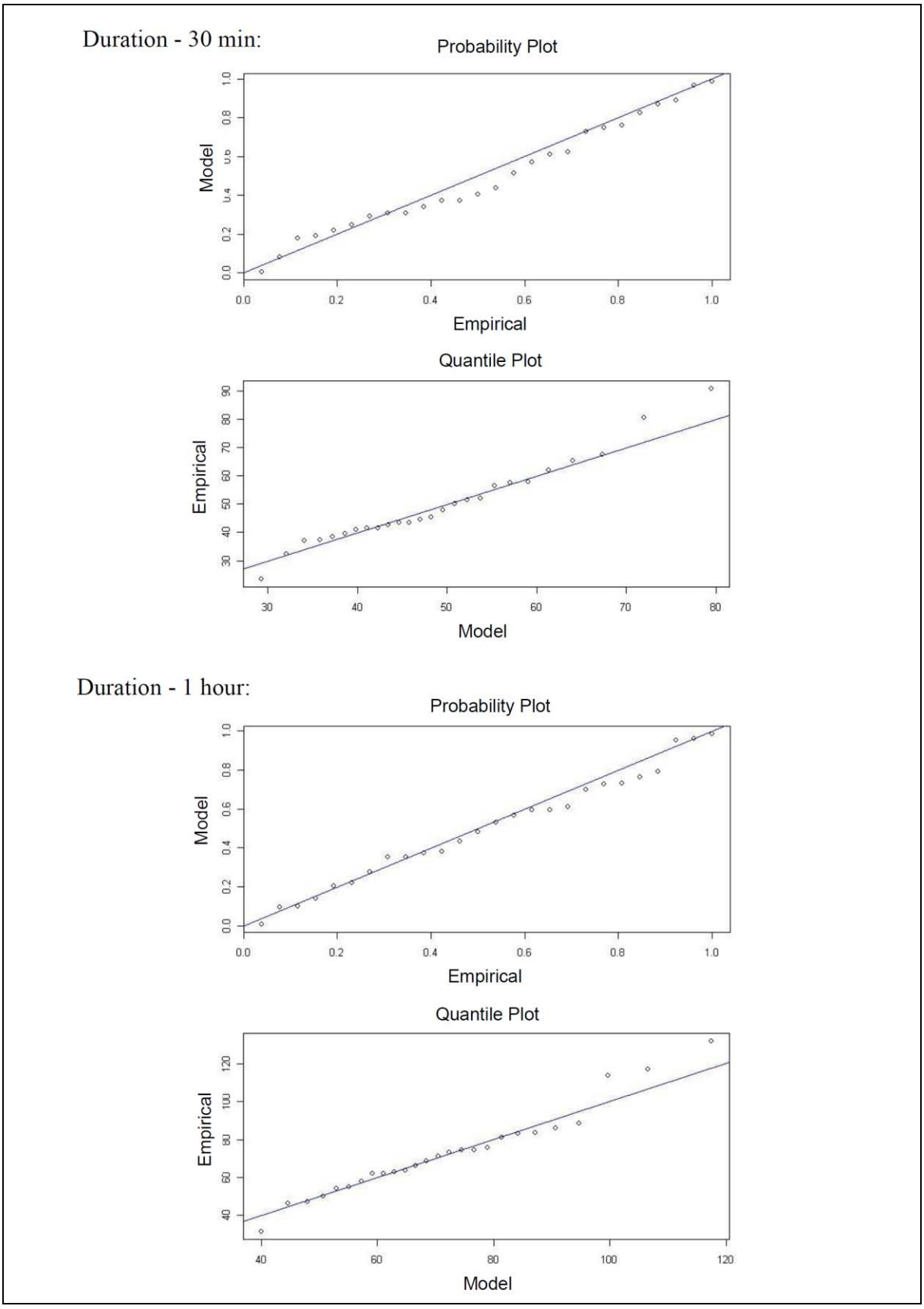


Figure 4.2 Probability Plots and Quantile Plots for Frequency Analysis of Rainfall Data Recorded at GEO Raingauge N06 (GEV Distribution) (Sheet 2 of 2)

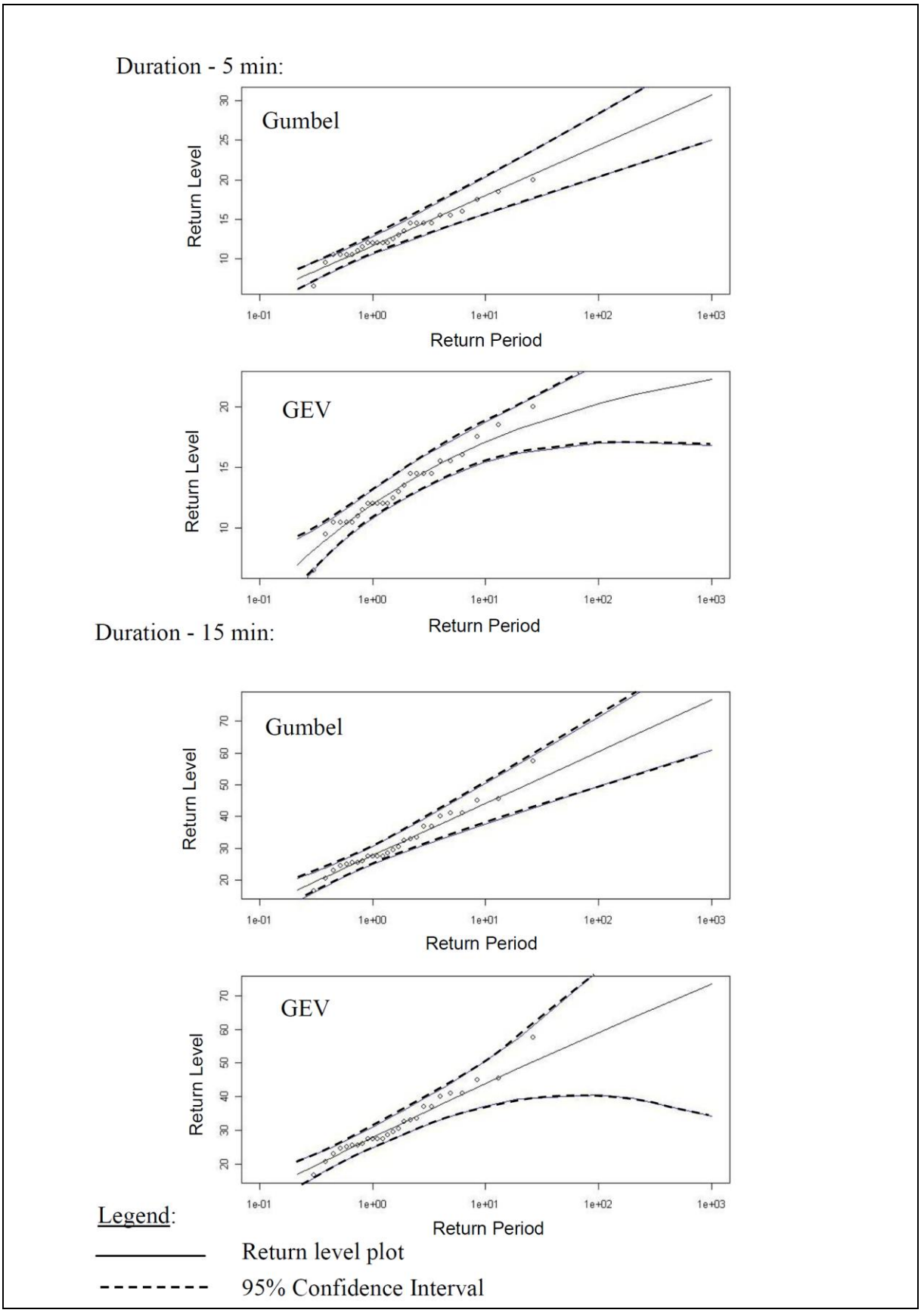


Figure 4.3 Comparison of Return Level Plots for Frequency Analysis of Rainfall Data Recorded at GEO Raingauge N06 (Sheet 1 of 2)

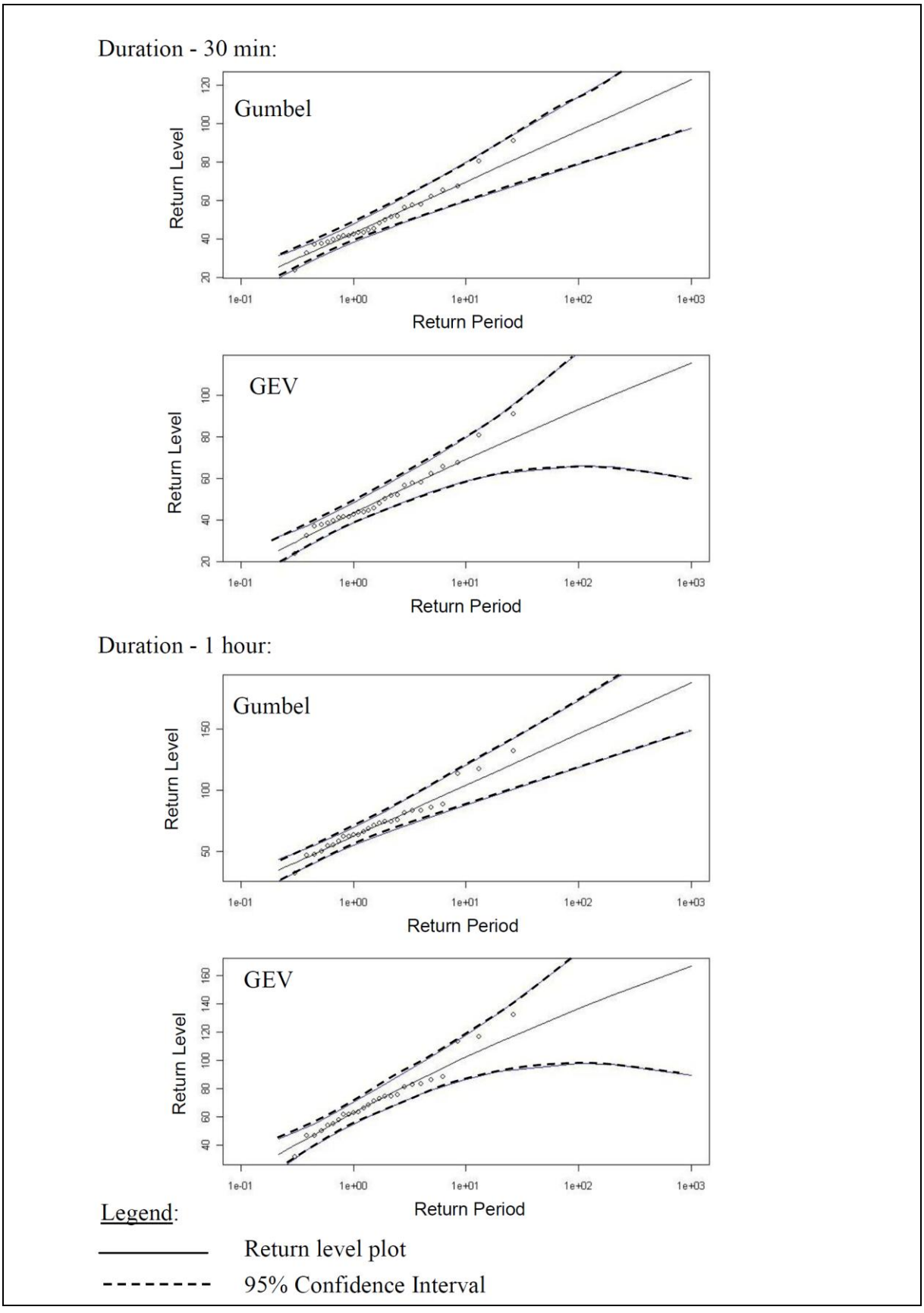


Figure 4.3 Comparison of Return Level Plots for Frequency Analysis of Rainfall Data Recorded at GEO Raingauge N06 (Sheet 2 of 2)

durations do not match with each other, i.e. the extreme rainfall data of the same raingauge follow both Weibull and Fréchet distributions for different rainstorm durations.

(c) The shape of the IDF curves is unrepresentative for majority of the raingauges. The derived IDF curves of Raingauge No. H01 as shown in Figure 4.4 is a typical example of these unrepresentative curves of the GEV distribution.

Wong & Mok (2009) carried out a frequency analysis of extreme rainfall intensities based on the GEV distribution of rainfall data for the HKO principal raingauge, which has more than 100 years of data. The distribution of extreme rainfall intensities for rainfall durations of 1-hr, 2-hr, 3-hr, 4-hr, 6-hr, 12-hr and 24-hr was found to exhibit a Fréchet type of distribution, which would seem reasonable. It is conjectured that the discrepancies in the performance of GEV distribution in fitting the data of the HKO principal raingauge and those of the GEO raingauges, which have only 26 years of data, may be attributed to the insufficient length of records from the GEO raingauges. In light of this, the IDF curves derived from the GEV distribution model might not be representative and as such they are not presented in full in this study.

4.2 Time Dependence of Frequency Distribution of Extreme Values

One of the key assumptions made in conventional analysis is that the distribution of extreme rainfall is stationary, i.e. the statistical parameters are constant with respect to time. However, this assumption may not hold, in view of the recent observations on, and projections of, climate change. Wong & Mok (2009) conducted trend analyses of a number of climate parameters, including annual maximum rainfall. The probability density distribution of extreme rainfall is observed to be varying over time. The trend analyses of the rainfall data at the HKO's principal raingauge showed that the return periods for 1, 2 and 3-hour rainfall had decreased significantly from 1885 to 2008, i.e. annual maximum 1, 2 and 3-hour rainfall had statistically significant increasing trends, as shown by the likelihood ratio test as described in Section 3.2 and Appendix A. In other words, the IDF curves are subject to change with time and the current design IDF curves may need to be adjusted in future to account for climate change.

Using the same statistical approach (i.e. GEV analysis) as adopted by Wong & Mok (2009), 14 out of the 43 GEO raingauges were found to show a statistically significant temporal trend at shorter durations ranging from 5-minute to 30-minute. On the other hand, a temporal trend is only observed occasionally for longer durations in individual raingauges, i.e. 1-day or longer (see Appendix B). A similar analysis using Gumbel non-stationary model, as adopted by Hundecha et al (2008) for analysis of extreme annual wind speed, was also carried out. Out of 817 combinations of rainfall durations and GEO raingauges, only about 17% of them exhibited positive trends at the 5% significance level by using the likelihood ratio test. Temporal trends were noted at 21 raingauges of 43 for shorter durations ranging from 5 minutes to 30 minutes. Similar to the GEV distribution, temporal trends were only observed in individual cases with longer durations of the order of days. It is also of interest to note that there are 58 (7.1%) and 80 (9.8%) cases showing negative trends for the non-stationary Gumbel model and GEV model respectively. Since only,

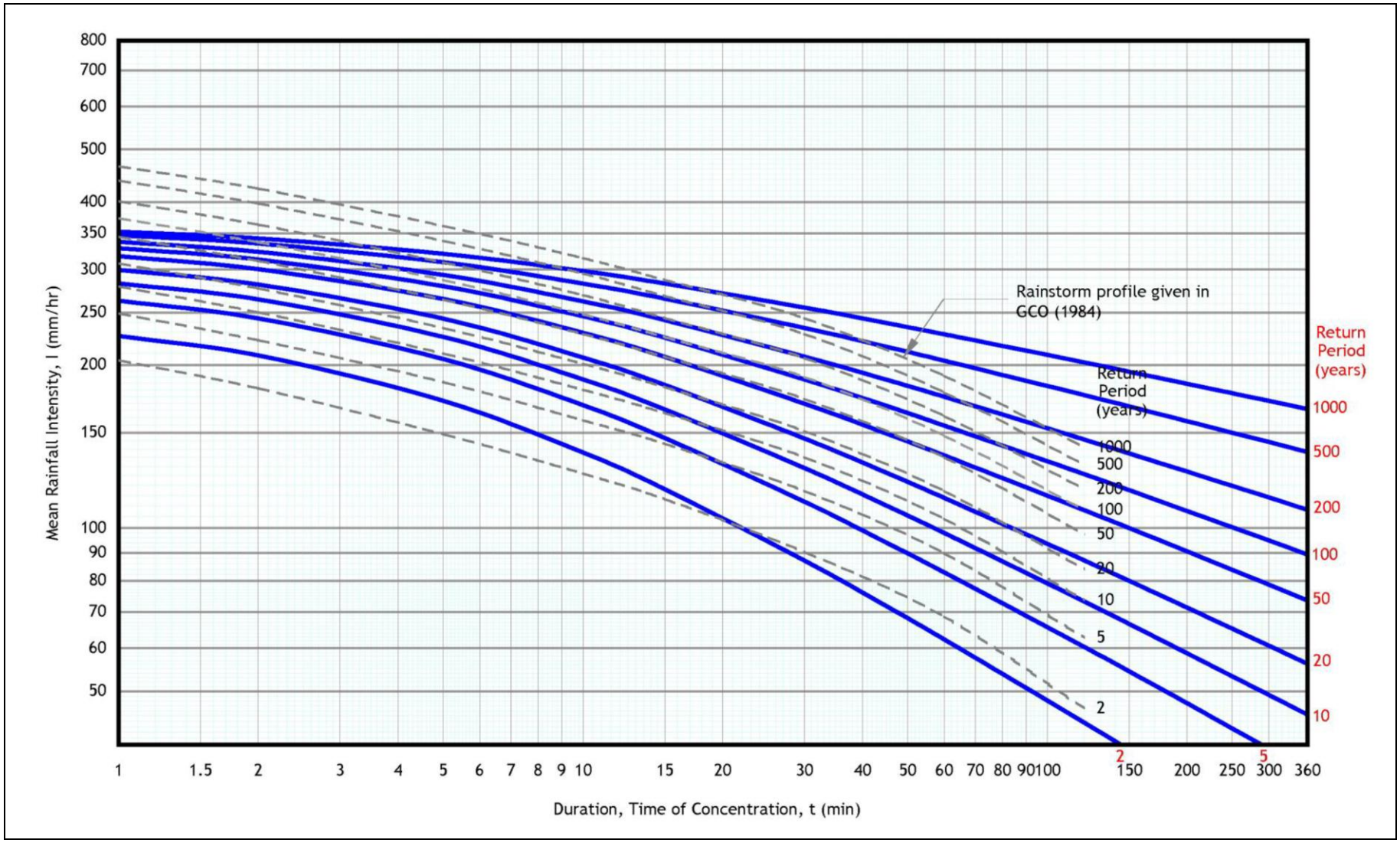


Figure 4.4 A Typical Example of Unrepresentative IDF Curves by Using the GEV Distribution in Modelling the Frequency Distribution of Annual Maximum Rainfall

localized changes in annual extreme rainfall for particular range of durations are observed conclusions on any prevalent trends in extreme rainfall in Hong Kong based on the available data cannot be drawn with confidence.

4.3 Comparison of Gumbel and GEV Distributions

The results of the likelihood ratio tests for comparing the Gumbel and GEV distributions are given in Appendix B for different raingauges and rainstorm durations. It is noted that the likelihood ratios only very occasionally exceed the critical values of the chi-square distribution (i.e. λ = 3.84). In this regard, the results suggest that the goodness-of-fit of the Gumbel distribution is comparable to that of the GEV distribution in most cases. Since both types of distributions are able to adequately represent the observed data, the simpler distribution (i.e. the Gumbel distribution) has been adopted for frequency analysis of the available GEO raingauge data. In view of the problems associated with the use of the GEV distribution for the present data sets of the 43 GEO raingauges as discussed in Section 4.1, the use of Gumbel distribution is considered appropriate for modelling the extreme rainfall frequency in this report.

4.4 Comparison of Computed IDF Curves

By applying the Gumbel distribution, the extreme rainfall intensities computed for different combinations of durations and return periods are tabulated in Appendix C, and the corresponding raingauge-specific IDF curves are given in Appendix D.

To facilitate comparison of the raingauge-specific IDF curves with the curves given in GCO (1984), IDF curves with the same return periods are plotted on the same graph (Appendix E). The IDF curves of Raingauge No. N14, which is located at the peak of Tai Mo Shan at an elevation of 944 mPD, are much higher than the others. By comparison, the other GEO raingauges are located at elevations ranging from 6 mPD to 530 mPD. The higher IDF curves of Raingauge No. N14 might be a result of orographic effects. As such, the corresponding IDF curves from N14 should be applied judiciously as they may not necessarily be applicable.

The other 42 raingauge-specific IDF curves roughly form a band of curves with a similar trend that is generally consistent with that of the curves given in GCO (1984). The variation of the raingauge-specific IDF curves may be attributed to the spatial variability of rainfall. It is noted that the IDF curves given in GCO (1984) lie within the band of curves for rainstorms with durations shorter than 20 to 30 minutes. For longer duration rainstorms, however, the IDF curves in GCO (1984) are close to the upper bound of the band of the IDF curves derived from the above 42 GEO raingauges.

5 Discussion

5.1 Limitations of Frequency Analyses Based on Reference to Annual Maxima Rainfall

Frequency analysis of extreme rainfall events is typically based on reference to annual

maximum rainfall data but this approach has its some inherent limitations. For instance, some of the very intense rainfall events are ignored in the analysis because only the maximum rainfall value for a given year would be selected. In reality, there may be several intense rainfall events in a particularly wet year, which are more severe than the annual maximum rainfall in the dry years. As such, the frequency of extreme rainfall events in a wet year may be distorted in the analysis.

The Peaks-Over-Threshold (POT) method may be used as an alternative to improve the estimation of extreme rainfall intensities, as it can potentially allow for multiple intense rainfall events occurring in the same year. In the POT method, a threshold value (u) of rainfall intensity is assigned and all extreme rainfall intensities (X) greater than this threshold value are included in the frequency analysis. The Generalised Pareto distribution is commonly used to model the frequency distribution of the threshold excesses (X - u). However, the drawback of the POT method is that the frequency distribution is highly dependent on the threshold value and therefore the derived extreme rainfall intensities could be sensitive to the threshold selected. When specifying the threshold value, it is necessary to strike a balance between model bias and model variance. If a high threshold value is selected, only a few data are used in the analysis, which would result in unacceptably high variance. However, if a very low threshold value is adopted, the data set may infringe the basic assumption of an asymptotic trend in the model. The common techniques in threshold selection include examining the mean residual life plots and checking the stability of parameter estimates against the threshold values. Davison & Smith (1990) and Coles (2001) give details of frequency modelling of exceedances over thresholds.

An alternative approach, known as the Regional Frequency Analysis (RFA), may be adopted which could alleviate the limitations of insufficient data records. Hosking & Wallis (1997) describe the technical details of RFA. Practical application of RFA has gradually gained popularity in the literature in recent years, e.g. Fowler & Kilsby (2003), Wallis et al (2007), Overeem et al (2008), etc. One of the key advantages of RFA is that it can pool together data of those monitoring stations with similar characteristics as a single set of data for frequency analysis. This would increase the sampling size and reduce the variance, which improve significantly the reliability of the derived statistical parameters. However, more complicated procedures are involved in conducting the RFA, including the checking of the independence of the rainfall records (i.e. whether the extreme rainfall intensities recorded in adjoining raingauges originated from the same rain cell, etc.), and ensuring the rainfall pattern recorded in individual raingauges is of the same characteristic. Regionalization of raingauge stations with a similar frequency distribution for the derivation of regional IDF curves is a challenging and demanding task to accomplish in a rigorous manner. The Drainage Services Department (DSD) has commissioned a consultancy to undertake a RFA using the available raingauge data in Hong Kong, which is scheduled for completion in 2012. Although the scope of DSD's study does not consider all the rainfall durations applicable to slope design (e.g. only 5 minutes to 480 minutes rainfall will be reference to), the data preparation and analysis methodology could be of use to the GEO for related studies in due course.

5.2 Proposed Reference Design Curves for Rainfall Intensity

The frequency analysis carried out in the present study is based mainly on analysis of

recorded rainfall. The analysis of past rainfall data recorded at the principal raingauge at HKO shows that the annual rainfall and the frequency of occurrence of heavy rain events have increased during the period of 1885 to 2008 (Wong & Mok, 2009). However, the possible influence of future climate change has not been considered in the present study. The HKO is working on assessing the potential effects of climate change on the occurrence of extreme weather and rainfall (Lee et al, 2008). Further studies to update the results of climate projections for Hong Kong, especially for extreme weather events, are being carried out by the HKO with daily projections of global climate models of IPCC (Ginn et al, 2010).

At present, the projections of variation of rainfall for the 21st century indicate that under the influence of climate change, the annual rainfall in Hong Kong is expected to rise by the end of the 21st century and the year-to-year rainfall variability would increase with more extremely wet and dry years. The increase in frequency of severe rainstorms could have adverse impact on slope stability and more robust slope stabilisation measures and drainage provisions are called for. The use of an upper bound IDF curves for the whole of Hong Kong would enhance the robustness of slope drainage design and help to reduce the vulnerability of slopes to the impact of climate change in relation to slope drainage.

The uncertainties of the present analyses are highlighted in the preceding sections. As a pragmatic approach, the upper bound rainfall intensities for different durations, based on the 42 IDF curves (i.e. excluding the Tai Mo Shan raingauge) from GEO raingauges and the existing design curves in GCO (1984), may be taken as the new reference design rainfall intensity for slope drainage provisions in Hong Kong (Figure 5.1). This will bring about a slight upward shift of the existing design curves. For example, the use of the new reference design curves would result in approximately 15% increase in the magnitude of design rainstorm intensity for a 200-year return period event for 1-minute duration rainfall.

In assessing the groundwater level for slope design, the relevant design rainfall durations may be more than a few hours, the extreme rainfall intensities for which are given in Appendix C. The IDF curves presented in Appendix D are intended for the design of surface drainage provisions on slopes for comparatively shorter rainstorm durations, as the time of concentration for most slope drainage design is around a few minutes.

For individual sites, designers may wish to make further suitable adjustments to the reference design curves to enhance the robustness of slope design, taking due cognizance of the past slope performance, site setting and vulnerability to possible changes in future, likely consequence of failure in the event of non-performance of slope drainage, possible orographic effects, etc.

6 Conclusions and Recommendations

In the present study, the classical extreme value theory has been used to model the frequency distribution of extreme rainfall intensities based on the available annual maximum rainfall data from the GEO raingauges. The results as summarized in Section 5.2 of this report supersede those of Evans & Yu (2001).

Although the 43 GEO raingauges have some 26 years of rainfall data, the present study has shown that they are not sufficiently long for applying the GEV distribution to derive extreme rainfall intensities. The use of Gumbel distribution was found to be more

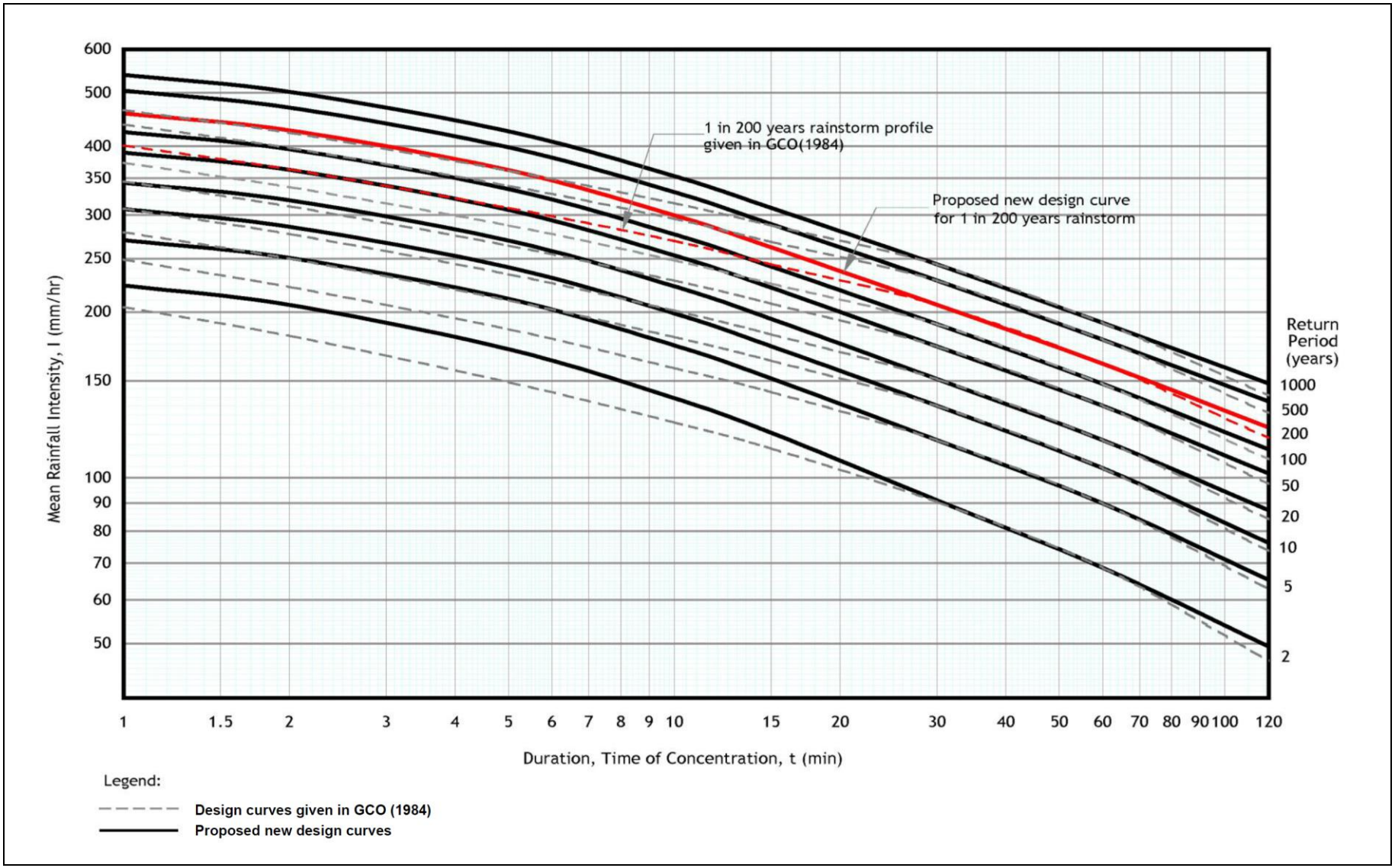


Figure 5.1 Proposed New Design Curves Showing Rainstorm Duration and Intensity in Hong Kong for Different Return Periods

appropriate for the modelling of the frequency of extreme rainfall. In light of this and taking cognizance of the uncertainties of the analyses, the upper bound rainfall intensities given in Figure 5.1 may be adopted as the new reference rainfall intensity for slope drainage design in Hong Kong. As the present analyses are based on past data, the findings do not explicitly allow for any effects of possible climate change.

There is scope for further improving the estimation of extreme rainfall values by using other statistical methods to enhance the frequency analysis as discussed in Section 5.1. The following follow-up actions are recommended:

(a) GEO should keep in view HKO's study on climate change, which could provide further insights and quantified results on projected extreme rainfall patterns for the 21st century.

(b) GEO should keep abreast of the findings of the ongoing RFA study by DSD.

(c) Koutsoyiannis et al (1998) have presented a methodology for considering the geographical variation of IDF curves and converting the extreme rainfall values into regional maps. The feasibility and appropriateness of considering spatial variations of extreme rainfall in Hong Kong may be investigated.

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Appendix A

Basic Principles of Rainfall Frequency Analysis

A.1 Generalized Extreme Value (GEV) Distribution

In the design of slope drainage measures, assessment of slope stability or evaluation of the severity of a particular rainstorm, it is necessary to estimate the magnitude of design rainfall intensity (or depth) corresponding to a certain return period, e.g. 200-year for sizing of drainage channels and 10-year for slope stability assessment. The magnitude of such extreme events for design purposes is related to their frequency of occurrence, which can be estimated by means of frequency analysis of the past annual maximum rainfall. It was found that the distribution of extreme values of a random variable with any probability distribution always converges to the GEV distribution $G(z)$, which is defined as follows:

$$G(z) = \exp\left\{-\left[1+\xi\left(\frac{z-\mu}{\sigma}\right)\right]^{-1/\xi}\right\} \quad \text{.....(A.1)}$$

where μ = location parameter
σ = scale parameter
ξ = shape parameter

By rearranging the above equation, the return level z_p (i.e. rainfall intensity (mm/s) in this study) is related to its frequency of occurrence, p (or the inverse of return period) by the following formulae:

$$z_p = \mu - \frac{\sigma}{\xi}\left[1-\{-\ln(1-p)\}^{-\xi}\right], \text{ for } \xi \neq 0 \quad \text{.....(A.2)}$$

$$z_p = \mu - \sigma\ln\{-\ln(1-p)\}, \text{ for } \xi = 0 \quad \text{.....(A.3)}$$

where $G(z_p)$ = $1 - p$

Depending on the value of ξ, the GEV distribution can be converted to three families of distribution models based on classical extreme value theory, namely, Gumbel (corresponding to $\xi = 0$), Fréchet (corresponding to $\xi > 0$) and Weibull (corresponding to $\xi < 0$) respectively.

By setting ξ to zero, the Gumbel distribution substantially eliminates the uncertainty by controlling the rate of tail decay. However, as shown in the return level plot, the extrapolation of the design rainfall intensity for very long return periods (say 200-year or longer) will be based on limited amount of historical data that are clustered at the left part of the plot with shorter return periods. The 95% confidence levels of the return level plot further illustrate that the uncertainty at the high levels would drastically increase.

A.2 The Method of Maximum Likelihood

The location, scale and shape of a probability distribution function are controlled by its statistical parameters (θ). For instance, normal distribution is controlled by 2 statistical parameters (μ, σ), whereas the GEV distribution is controlled by 3 statistical parameters

(μ, σ, ξ). For the same distribution model, each set of parameters will give different values of probability [i.e. the likelihood, $f(x_i;\theta)$] of the observed data (x_i). The method of maximum likelihood is to select the set of parameters such that the multiplication of the likelihood of all x_i is maximized:

$$L(\theta) = \prod_{i=1}^{n} f(x_i;\theta) \quad \text{.....(A.4)}$$

For mathematical convenience, it is common to take natural logarithms at both sides of the above equation and the log-likelihood $\ell(\theta)$ is equal to:

$$\ell(\theta) = \ln L(\theta) = \sum_{i=1}^{n} \ln f(x_i;\theta) \quad \text{.....(A.5)}$$

A.3 Likelihood Ratio Test

The likelihood ratio test (Cole, 2001) is defined as:

$$D = 2\{\ell_1(M_1) - \ell_0(M_0)\} \quad \text{.....(A.6)}$$

where D = deviance statistic
$\ell_1(M_1)$ = log-likelihood of a more sophisticated statistical model M_1
$\ell_0(M_0)$ = log-likelihood of a simpler statistical model M_0, which is a subset of model M_1

This is a hypothesis test to infer whether the frequency distribution of the extreme rainfall can be modelled by an assumed model M_0 (null hypothesis), as compared with M_1 (alternative hypothesis). In order words, the likelihood ratio test is used to compare two statistical models to see whether the more sophisticated model can bring about significant improvement in representing the probability distribution of the concerned random variable (which is the annual maximum rainfall in the present study). A simpler statistical model is preferred if the use of a more sophisticated model would only result in minor improvement.

Wilks (1938) proved that D is distributed approximately as chi-square (χ^2_k) distribution, where k is the difference in the dimensionality of M_1 and M_0 (i.e. the difference in number of parameters in the parameter set, i.e. 2 for Gumbel distribution and 3 for GEV distribution). The significance of improvement is judged by comparing D with a critical value λ, which is the (1-α) quantile of the χ^2_k distribution, where α is the significance level. The critical values (λ) with 95% quantile (i.e. $\alpha = 0.05$) are as follows:

Distributions for Comparison	Difference in Dimensionality	Critical Value (λ)
Gumbel vs. GEV (Stationary)	1	3.84
Gumbel vs. GEV (Non-stationary)	2	5.99

If D is greater than λ, the more sophisticated statistical model M_1 is considered to have significant improvement in fitting the data as compared with the simpler statistical model M_o, and vice versa. More details on the likelihood ratio test can be found in Hosking (1984).

A.4 Non-stationary Gumbel or GEV Distribution

To model a non-stationary Gumbel or GEV distribution against time, its parameters are assumed to be a linear function of time. For example, the location parameter μ can be expressed as follows:

$$\mu(t) = \beta_0 + \beta_1 t \quad \text{.....(A.7)}$$

The scale (σ) and shape (ξ) parameters may also be expressed in terms of functions of time. Since the magnitude of σ must be positive, it can be expressed in the following form:

$$\sigma(t) = \exp(\beta_0 + \beta_1 t) \quad \text{.....(A.8)}$$

In the present study, only the location parameter is assumed to be varying with time. Such an assumption is made on the basis of the findings of Wong & Mok (2009) whereby only the location parameter was found to be non-stationary for durations of 1-hr, 2-hr and 3-hr whilst the scale and shape parameters were found to be constant against time for any duration.

A.5 Diagnostic Plots for Testing the Goodness-of-Fit of Distribution Model

A.5.1 Probability Plot

For each of the durations (ranging from 5 minutes to 31 days), the 26 years of annual maximum rainfall data of the individual GEO raingauges are arranged in an ascending order as follows:

$$x_1 \le x_2 \le \ldots \le x_{26}$$

By assuming a frequency distribution model F, its probability plot consists of the following data points:

$$(F(x_i), \ \frac{i}{27}) \text{ where } i = 1, 2, \ldots 26$$

F is considered unable to model the frequency distribution of x_i if the data points in the probability plot depart substantially from the unit diagonal.

A.5.2 Quantile Plot

The quantile plot consists of the following data points:

$$(F^{-1}(\frac{i}{27}), x_i) \text{ where } i = 1, 2, \ldots 26$$

Similar to the probability plot, F is considered unable to model the frequency distribution of x_i if the data points in the quantile plot depart substantially from the unit diagonal. The quantile plot is more representative than the probability plot in verifying the model validity, because the values of probability of the extreme data are always forced to approach unity whereas the values of quantile are not confined (Coles, 2001).

A.5.3 Return Level Plot

The return level means the occurrence of the design rainfall intensity corresponding to a particular combination of duration and return period. The return level plot comprises a graph of equation A.2 or A.3, dependent of the value of the shape parameter.

The dotted lines in the plot are the 95% confidence interval of the return level. These illustrate the uncertainty of the assumed frequency distribution model in representing the data. According to the summary of VGAM package of computer software "R", the confidence interval lines are approximate, being based on finite-difference approximations to derivatives. Such confidence intervals can be estimated from the corresponding variance-covariance matrix (Coles, 2001).

A.6 Numerical Tool for Statistical Analysis

Computer software "R" version 2.9.0 was used to carry out the frequency analysis in this study. "R" is a computer program for statistical analysis and provides a wide variety of statistical solutions (e.g. linear and nonlinear modelling, classical statistical tests, etc.) and graphical techniques in plotting charts. It is available as a free and open resource, and is compiled and run on a wide variety of operation systems including UNIX platforms, Windows and Mac OS. More details about "R", its source files and its attached packages are available on the official web site : http://www.r-project.org/. An introduction to the basic functions in "R" is given by Venables et al (2006).

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Appendix B

Estimated Parameters for GEO Raingauges

Glossary of Symbols

μ	Location parameter of Gumbel/GEV distribution
σ, α	Scale parameter of Gumbel/GEV distribution (σ *is* equivalent to $1/\alpha$ in Appendix C, according to the symbol as adopted in Peterson & Kwong (1981) and Lam & Leung (1994))
ξ	Shape parameter of GEV distribution
a, b	Location parameter modelled as a function of time, i.e. $\mu = a + b\,t$
$-\log L_i$	Negative maximum log-likelihood of the modelled Gumbel/GEV distribution (see Appendix A)
D	Likelihood ratio, which is highlighted in bold if D is greater than the critical values (λ) (see Appendix A)

Raingauge H01 at St. Clare's Girls' School, 50 Mount Davis Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	569.51	205.47	180.75	573.44	5.73	201.75	180.07	1.37	544.68	182.05	0.24	179.94	1.63	550.45	3.79	180.92	0.22	179.46	2.58
15-day	411.84	154.43	172.76	414.63	3.63	153.25	172.21	1.10	397.35	141.27	0.18	172.49	0.53	407.66	2.83	147.25	0.08	172.16	1.20
7-day	305.95	123.39	166.90	308.28	3.05	121.97	166.29	1.23	288.49	106.91	0.28	166.58	0.65	300.70	2.25	115.14	0.11	166.24	1.33
5-day	283.10	115.25	165.06	285.20	2.93	113.19	164.40	1.32	271.88	104.87	0.19	164.84	0.43	278.78	2.37	107.51	0.10	164.32	1.47
4-day	272.99	114.73	164.98	274.58	2.44	113.55	164.52	0.92	258.86	101.38	0.24	164.70	0.55	265.56	1.71	105.34	0.15	164.41	1.13
3-day	258.15	105.35	162.96	259.31	2.04	104.41	162.58	0.76	242.81	90.48	0.29	162.43	1.07	246.08	1.14	91.97	0.25	162.22	1.48
2-day	225.18	87.51	158.53	225.54	0.94	87.38	158.42	0.22	211.98	74.15	0.31	157.56	1.95	212.14	0.49	73.94	0.31	157.49	2.08
24-hr	181.36	67.95	151.90	181.49	0.50	67.95	151.85	0.10	173.35	60.41	0.23	151.15	1.49	173.35	0.26	60.29	0.24	151.13	1.53
18-hr	159.32	62.39	149.55	159.58	0.71	62.30	149.43	0.24	151.48	54.99	0.25	148.90	1.30	151.83	0.30	55.14	0.24	148.86	1.38
12-hr	141.06	55.70	146.93	141.24	0.54	55.76	146.84	0.17	132.83	47.66	0.30	145.84	2.16	132.83	0.00	47.66	0.30	145.84	2.16
8-hr	125.05	46.15	142.04	125.19	0.36	46.27	141.99	0.11	118.31	39.53	0.29	140.90	2.29	117.79	-0.17	39.08	0.31	140.87	2.34
6-hr	115.32	43.25	139.83	115.60	0.57	43.30	139.68	0.29	111.93	40.37	0.15	139.40	0.85	112.32	0.27	40.55	0.14	139.36	0.94
4-hr	104.42	39.99	137.90	104.66	0.48	40.07	137.78	0.25	100.88	36.91	0.17	137.36	1.09	101.13	0.18	37.03	0.16	137.33	1.15
2-hr	80.47	27.93	129.22	80.76	0.52	27.89	128.93	0.57	77.08	24.69	0.24	127.97	2.51	77.29	0.24	24.64	0.24	127.85	2.73
1-hr	60.73	18.44	117.53	61.08	0.49	18.19	116.90	1.28	59.62	17.57	0.11	117.28	0.50	60.29	0.40	17.59	0.08	116.80	1.48
30-min	42.80	10.27	101.97	43.24	0.46	9.53	100.01	3.92	42.53	10.09	0.05	101.92	0.11	42.94	0.43	9.29	0.06	99.96	4.02
15-min	28.12	5.85	87.12	28.32	0.24	5.49	85.51	3.22	28.11	5.85	0.00	87.12	0.00	28.32	0.24	5.49	0.00	85.51	3.22
10-min	20.95	4.60	80.61	21.09	0.20	4.25	78.92	3.39	21.10	4.70	-0.06	80.56	0.11	21.06	0.20	4.22	0.02	78.91	3.40
5-min	12.08	2.78	67.29	12.13	0.10	2.64	66.22	2.13	12.24	2.88	-0.10	67.13	0.32	12.20	0.10	2.69	-0.05	66.19	2.20

Raingauge H02 at Block C & D, Kwun Lung Lau Estate, Lung Wah Street

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	$-\log L_i$	a	b	σ	$-\log L_i$	D	μ	σ	ξ	$-\log L_i$	D	a	b	σ	ξ	$-\log L_i$	D
31-day	628.01	211.47	181.33	630.79	4.45	210.28	180.94	0.77	606.17	191.40	0.20	180.76	1.14	609.68	2.72	191.31	0.19	180.54	1.57
15-day	457.42	160.15	173.20	457.99	1.20	160.55	173.15	0.11	457.84	160.46	0.00	173.20	0.00	463.32	1.85	164.93	-0.06	173.12	0.16
7-day	342.12	121.80	166.52	342.77	1.18	122.23	166.42	0.19	331.91	112.45	0.16	166.33	0.37	333.11	0.25	113.49	0.15	166.33	0.38
5-day	316.86	114.25	164.78	317.49	1.37	114.30	164.64	0.29	308.08	106.32	0.15	164.64	0.29	311.13	0.84	108.65	0.10	164.58	0.41
4-day	306.14	115.70	165.08	306.53	0.92	115.96	165.02	0.13	298.31	108.67	0.13	164.97	0.22	299.90	0.38	109.98	0.11	164.96	0.24
3-day	286.95	108.35	163.48	287.28	0.89	108.47	163.42	0.14	277.51	99.67	0.17	163.28	0.41	278.38	0.32	100.37	0.16	163.27	0.43
2-day	248.66	90.38	159.38	248.63	-0.11	90.33	159.38	0.00	233.27	74.58	0.35	158.28	2.21	232.22	-0.70	73.14	0.38	158.12	2.51
24-hr	198.15	68.93	152.36	198.12	-0.19	68.82	152.35	0.01	186.09	56.70	0.36	151.24	2.25	185.04	-0.61	55.25	0.39	151.03	2.67
18-hr	176.02	62.75	149.49	176.01	-0.13	62.67	149.49	0.01	169.90	57.14	0.19	149.13	0.72	169.22	-0.42	56.38	0.21	149.06	0.86
12-hr	152.14	54.89	146.13	152.13	-0.07	54.85	146.13	0.00	146.10	49.30	0.22	145.62	1.03	145.49	-0.36	48.62	0.24	145.55	1.17
8-hr	133.75	45.21	140.94	133.74	0.05	45.23	140.94	0.00	129.44	41.33	0.18	140.54	0.80	128.78	-0.27	40.69	0.21	140.49	0.90
6-hr	121.17	39.86	137.72	121.29	0.32	39.95	137.66	0.11	116.92	35.98	0.20	137.20	1.04	116.90	-0.01	35.98	0.20	137.20	1.04
4-hr	105.79	38.18	136.63	106.04	0.50	38.29	136.48	0.29	102.55	35.39	0.16	136.16	0.93	102.88	0.16	35.60	0.15	136.14	0.97
2-hr	79.69	27.44	128.42	80.14	0.61	27.45	128.00	0.85	76.52	24.47	0.23	127.52	1.80	77.12	0.22	24.80	0.19	127.45	1.95
1-hr	60.66	16.18	114.75	60.97	0.41	16.07	114.18	1.14	58.66	14.29	0.24	113.81	1.88	59.12	0.20	14.41	0.21	113.58	2.34
30-min	41.61	9.43	100.75	41.71	0.16	9.49	100.50	0.49	40.02	7.82	0.34	99.53	2.43	39.70	-0.05	7.56	0.41	99.47	2.55
15-min	27.11	6.01	87.71	27.39	0.29	5.58	85.65	**4.11**	27.17	6.05	-0.02	87.70	0.01	27.53	0.30	5.68	-0.05	85.63	4.16
10-min	20.62	4.41	79.39	20.92	0.27	3.82	75.93	**6.93**	20.85	4.57	-0.10	79.27	0.24	21.04	0.28	3.92	-0.06	75.90	**6.99**
5-min	11.84	2.60	65.57	12.03	0.17	2.16	61.38	**8.38**	11.94	2.67	-0.07	65.46	0.21	11.96	0.17	2.11	0.06	61.31	**8.51**

Raingauge H03 at Block 44, Baguio Villa

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	587.43	189.22	178.22	590.19	4.12	188.46	177.81	0.83	572.48	176.24	0.15	177.89	0.66	579.33	2.84	179.40	0.11	177.67	1.09
15-day	429.53	144.14	170.35	430.17	1.13	144.64	170.29	0.12	431.84	145.88	-0.03	170.34	0.02	437.04	2.01	149.98	-0.08	170.22	0.25
7-day	316.33	111.34	163.65	316.86	0.91	111.93	163.58	0.14	318.72	113.24	-0.04	163.63	0.03	327.05	2.55	120.22	-0.16	163.40	0.48
5-day	292.60	99.67	160.82	292.82	0.64	100.03	160.77	0.09	293.27	100.31	-0.01	160.81	0.00	296.26	1.02	102.74	-0.06	160.74	0.15
4-day	283.31	96.22	160.07	283.52	0.54	96.45	160.04	0.07	281.42	94.61	0.04	160.06	0.02	283.67	0.55	96.62	0.00	160.04	0.07
3-day	262.55	94.11	159.24	262.60	0.03	94.13	159.24	0.00	264.67	95.66	-0.04	159.22	0.04	265.76	0.39	96.69	-0.06	159.20	0.06
2-day	226.52	77.89	154.55	226.40	-0.66	77.07	154.48	0.14	225.84	77.41	0.02	154.55	0.01	221.72	-1.15	72.98	0.11	154.39	0.32
24-hr	181.18	57.37	147.20	181.21	0.05	57.39	147.20	0.00	174.58	51.19	0.23	146.72	0.96	168.37	-0.82	45.08	0.45	146.35	1.70
18-hr	159.10	51.36	144.33	159.10	0.02	51.40	144.33	0.00	153.09	45.69	0.23	143.86	0.95	140.01	-1.19	31.94	0.84	142.43	3.80
12-hr	141.02	43.20	140.69	141.33	0.52	43.42	140.55	0.27	131.13	31.88	0.50	138.25	**4.88**	125.63	-0.54	26.19	0.83	137.35	**6.69**
8-hr	123.44	37.87	137.44	123.65	0.34	38.14	137.37	0.14	116.05	29.58	0.42	135.16	**4.55**	108.02	-0.78	20.75	0.99	133.25	**8.37**
6-hr	113.34	35.58	135.55	113.66	0.45	35.90	135.41	0.29	106.90	28.72	0.38	133.81	3.48	99.00	-0.68	20.62	0.94	132.37	**6.37**
4-hr	99.15	34.15	134.27	99.51	0.51	34.41	134.08	0.39	94.83	30.04	0.25	133.20	2.15	94.01	-0.19	29.37	0.29	133.16	2.23
2-hr	78.86	28.16	129.16	79.48	0.81	27.77	128.45	1.43	76.38	26.11	0.17	128.39	1.54	77.11	0.56	25.86	0.15	127.90	2.52
1-hr	59.60	20.55	119.68	59.89	0.52	20.21	119.13	1.10	59.33	20.43	0.02	119.66	0.04	59.77	0.51	20.15	0.01	119.13	1.11
30-min	40.91	12.05	105.07	41.25	0.54	11.14	103.40	3.33	41.21	12.14	-0.05	104.98	0.17	41.44	0.54	11.24	-0.03	103.38	3.38
15-min	26.72	6.56	89.22	27.04	0.40	5.68	86.20	**6.05**	27.05	6.71	-0.09	88.98	0.48	27.09	0.40	5.71	-0.02	86.19	**6.06**
10-min	19.77	4.59	80.20	19.98	0.27	3.98	77.37	**5.65**	19.96	4.69	-0.07	80.07	0.25	19.83	0.27	3.86	0.07	77.31	5.78
5-min	11.20	2.65	66.36	11.29	0.13	2.38	64.30	**4.11**	11.19	2.64	0.01	66.36	0.00	11.15	0.14	2.28	0.11	64.05	4.62

Raingauge H04 at Knowles Building, University of Hong Kong

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	664.96	221.53	182.72	669.80	6.35	216.96	181.94	1.56	626.97	183.21	0.35	181.63	2.17	631.97	3.33	180.43	0.34	181.10	3.24
15-day	474.36	172.33	175.35	475.96	2.76	172.06	175.08	0.53	468.45	167.37	0.06	175.31	0.08	476.52	2.82	172.53	-0.01	175.08	0.53
7-day	362.35	133.78	168.75	364.00	2.66	132.69	168.33	0.84	357.26	129.36	0.07	168.71	0.07	365.44	2.82	133.98	-0.02	168.32	0.85
5-day	335.42	124.75	166.96	336.59	2.06	124.06	166.67	0.59	329.12	119.21	0.10	166.90	0.13	333.73	1.84	121.61	0.04	166.66	0.61
4-day	322.68	126.21	167.21	323.32	1.45	126.12	167.06	0.28	317.96	122.06	0.07	167.17	0.07	321.65	1.33	124.65	0.02	167.06	0.29
3-day	306.25	114.99	164.91	306.58	0.94	114.99	164.84	0.14	299.18	108.67	0.12	164.81	0.22	300.36	0.61	109.50	0.10	164.77	0.29
2-day	265.89	95.55	160.64	265.89	-0.13	95.50	160.64	0.00	251.62	81.56	0.30	159.90	1.49	249.56	-0.77	79.21	0.35	159.75	1.79
24-hr	213.92	71.42	152.79	213.86	-0.48	71.02	152.75	0.09	205.86	63.88	0.22	152.43	0.72	202.57	-0.89	60.10	0.32	152.14	1.31
18-hr	190.07	63.07	149.30	190.05	-0.33	62.83	149.27	0.05	186.36	59.79	0.11	149.20	0.19	184.63	-0.58	57.88	0.16	149.10	0.40
12-hr	165.32	54.24	145.71	165.32	-0.09	54.19	145.71	0.00	159.65	49.06	0.20	145.31	0.80	159.18	-0.32	48.53	0.22	145.26	0.91
8-hr	143.03	44.88	140.66	143.08	0.11	44.94	140.65	0.01	139.18	41.45	0.16	140.36	0.59	138.60	-0.20	40.92	0.19	140.34	0.64
6-hr	127.86	40.12	137.93	128.05	0.44	40.21	137.83	0.20	123.74	36.35	0.20	137.44	0.98	123.91	0.08	36.48	0.19	137.44	0.99
4-hr	112.17	39.24	137.31	112.60	0.72	39.26	137.03	0.56	109.56	37.19	0.13	136.99	0.64	110.42	0.45	37.55	0.10	136.86	0.90
2-hr	86.19	26.83	127.96	86.97	0.90	26.25	126.96	2.00	83.45	24.34	0.20	127.12	1.69	84.45	0.61	24.07	0.18	126.45	3.03
1-hr	64.68	15.67	114.04	65.23	0.58	15.14	112.76	2.56	62.68	13.71	0.26	112.98	2.11	63.34	0.37	13.39	0.24	112.05	3.98
30-min	43.14	9.26	99.41	43.58	0.41	8.71	97.46	**3.90**	42.57	8.75	0.12	99.31	0.19	46.64	1.14	12.07	-0.61	97.03	4.76
15-min	28.02	5.54	85.59	28.31	0.25	5.18	83.42	**4.33**	28.23	5.71	-0.07	85.55	0.08	28.71	0.31	5.46	-0.14	83.16	4.84
10-min	20.67	4.15	78.08	20.94	0.20	3.88	75.59	**4.97**	20.80	4.26	-0.06	78.05	0.06	21.28	0.26	4.07	-0.15	75.13	5.88
5-min	12.06	2.52	65.03	12.27	0.13	2.25	61.52	**7.01**	12.20	2.62	-0.10	64.96	0.14	12.43	0.16	2.33	-0.12	61.21	**7.64**

Raingauge H05 at Aberdeen Treatment Works, Aberdeen Reservoir Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	630.15	206.75	180.83	636.73	8.10	196.46	179.47	2.71	610.16	188.68	0.19	180.23	1.21	613.57	6.89	174.66	0.23	178.77	4.12
15-day	452.83	154.02	172.96	455.16	3.53	152.61	172.46	1.01	433.61	135.71	0.25	172.41	1.11	437.77	2.06	136.54	0.22	172.13	1.67
7-day	330.70	118.44	165.54	331.95	2.05	117.95	165.22	0.64	327.10	115.36	0.06	165.52	0.05	333.68	2.24	119.46	-0.03	165.22	0.64
5-day	304.69	109.38	163.25	305.63	1.76	108.89	162.96	0.57	305.92	110.38	-0.02	163.24	0.01	310.04	2.15	112.31	-0.07	162.91	0.66
4-day	292.28	107.30	163.01	292.83	1.19	107.29	162.88	0.26	287.98	103.50	0.08	162.98	0.08	291.11	1.05	105.83	0.03	162.88	0.27
3-day	274.90	100.50	161.18	275.19	0.80	100.62	161.11	0.14	273.74	99.55	0.02	161.17	0.01	275.30	0.83	100.90	-0.01	161.11	0.14
2-day	238.08	82.98	156.35	238.11	0.19	83.08	156.35	0.01	234.67	80.06	0.08	156.30	0.10	234.36	-0.09	79.79	0.08	156.30	0.10
24-hr	193.00	60.86	148.15	193.03	0.08	60.91	148.15	0.00	191.88	59.89	0.03	148.14	0.02	191.16	-0.12	59.21	0.05	148.14	0.02
18-hr	167.96	51.76	143.89	168.36	0.65	51.95	143.74	0.30	170.04	53.67	-0.07	143.88	0.02	183.08	2.60	64.71	-0.48	142.62	2.53
12-hr	145.83	45.25	140.36	146.48	0.93	45.22	139.97	0.77	146.94	46.22	-0.05	140.35	0.02	156.01	2.39	53.29	-0.37	139.28	2.15
8-hr	130.42	42.18	138.61	130.58	0.26	42.42	138.58	0.07	130.06	41.91	0.02	138.61	0.00	145.34	3.71	56.56	-0.59	137.25	2.72
6-hr	120.40	37.96	135.79	120.66	0.37	38.25	135.70	0.18	120.08	37.73	0.02	135.79	0.01	123.20	0.94	40.52	-0.12	135.64	0.31
4-hr	106.46	35.05	134.06	106.77	0.48	35.24	133.88	0.37	104.44	33.36	0.11	133.92	0.28	105.81	0.34	34.42	0.05	133.86	0.40
2-hr	83.12	25.29	125.54	84.08	0.98	24.12	124.03	3.03	81.86	24.32	0.09	125.36	0.37	83.27	0.88	23.51	0.06	123.96	3.17
1-hr	62.31	18.13	116.95	62.56	0.44	17.80	116.41	1.09	61.26	17.32	0.11	116.68	0.53	61.51	0.38	16.98	0.10	116.18	1.54
30-min	43.05	10.53	101.94	43.29	0.39	10.08	100.84	2.21	43.08	10.54	0.00	101.94	0.00	43.35	0.39	10.11	-0.01	100.84	2.22
15-min	27.76	4.96	82.42	27.77	0.07	4.93	82.26	0.31	27.81	4.99	-0.02	82.41	0.02	27.85	0.07	4.98	-0.03	82.24	0.35
10-min	20.84	3.61	73.68	20.88	0.09	3.53	73.14	1.07	21.04	3.69	-0.10	73.41	0.54	21.11	0.10	3.65	-0.12	72.82	1.72
5-min	11.74	2.00	58.67	11.85	0.11	1.73	55.60	**6.14**	11.88	2.09	-0.13	58.45	0.44	11.83	0.11	1.72	0.02	55.60	**6.14**

Raingauge H06 at St. Margaret College, 1E Shiu Fai Terrace

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	677.35	230.74	183.56	686.82	10.32	215.18	181.77	3.59	659.07	215.29	0.16	183.12	0.89	665.93	9.22	196.40	0.19	181.21	4.70
15-day	474.91	166.97	175.29	477.92	4.43	163.51	174.60	1.37	448.63	140.65	0.32	174.33	1.90	448.07	2.81	133.97	0.37	173.67	3.23
7-day	356.49	133.15	168.51	360.51	4.84	126.11	167.11	2.80	355.06	131.95	0.02	168.50	0.01	357.95	4.64	123.78	0.04	167.10	2.81
5-day	324.13	121.63	166.36	326.91	3.93	115.76	165.23	2.25	318.09	116.46	0.09	166.28	0.16	314.55	3.43	104.34	0.21	164.97	2.77
4-day	309.73	121.68	166.51	311.33	2.72	119.53	165.99	1.04	298.21	110.99	0.18	166.30	0.43	300.24	2.10	109.35	0.18	165.81	1.40
3-day	294.34	113.53	164.58	295.22	1.83	112.74	164.31	0.54	287.18	107.11	0.12	164.49	0.19	289.92	1.52	108.08	0.09	164.26	0.64
2-day	252.76	94.52	159.84	253.17	1.19	94.21	159.68	0.32	248.00	90.61	0.09	159.74	0.20	249.17	0.97	90.92	0.08	159.61	0.46
24-hr	204.73	73.48	152.93	205.08	0.98	73.13	152.75	0.35	204.40	73.22	0.01	152.92	0.00	205.28	0.99	73.25	-0.01	152.75	0.35
18-hr	177.67	63.03	148.80	177.98	0.78	62.96	148.65	0.29	179.72	64.65	-0.06	148.76	0.07	181.85	1.13	65.97	-0.11	148.55	0.50
12-hr	154.58	51.80	143.63	155.02	0.92	51.46	143.33	0.58	159.94	56.30	-0.19	143.43	0.39	160.93	1.31	56.15	-0.20	143.02	1.20
8-hr	133.47	44.97	139.89	133.52	0.06	45.00	139.88	0.00	135.76	46.64	-0.09	139.79	0.18	137.38	0.59	48.14	-0.15	139.72	0.33
6-hr	122.61	40.73	137.47	122.70	0.18	40.86	137.45	0.04	123.31	41.24	-0.03	137.46	0.02	124.72	0.49	42.49	-0.09	137.39	0.15
4-hr	109.04	35.84	134.61	109.23	0.44	35.88	134.48	0.26	107.48	34.63	0.08	134.49	0.22	108.06	0.32	34.97	0.06	134.43	0.36
2-hr	83.41	23.91	123.98	84.01	0.88	22.85	122.85	2.28	82.72	23.41	0.05	123.94	0.09	83.14	0.83	22.17	0.07	122.78	2.41
1-hr	58.55	19.67	117.60	59.08	0.80	18.60	116.22	2.75	60.57	20.55	-0.19	116.94	1.31	61.80	1.01	20.13	-0.27	115.37	4.46
30-min	41.64	10.61	101.23	42.06	0.57	9.69	99.08	**4.31**	42.81	10.97	-0.20	100.31	1.85	43.42	0.63	10.32	-0.26	98.04	**6.38**
15-min	26.17	6.22	86.97	26.56	0.45	5.27	83.13	**7.68**	27.08	6.42	-0.27	85.32	3.29	27.26	0.42	5.54	-0.24	82.02	**9.89**
10-min	19.52	5.02	81.68	19.92	0.37	4.14	77.12	**9.13**	20.06	5.17	-0.20	80.70	1.97	20.29	0.37	4.31	-0.16	76.57	**10.23**
5-min	10.83	2.83	66.96	11.05	0.21	2.32	62.36	**9.20**	11.16	2.95	-0.21	66.02	1.86	11.26	0.20	2.44	-0.16	61.97	**9.97**

Raingauge H07 at South China Athletic Assn. Stadium, Caroline Hill Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	$-\log L_i$	a	b	σ	$-\log L_i$	D	μ	σ	ξ	$-\log L_i$	D	a	b	σ	ξ	$-\log L_i$	D
31-day	677.56	220.08	181.64	684.25	8.91	208.22	180.27	2.75	672.62	216.76	0.04	181.60	0.08	677.10	8.57	202.75	0.06	180.21	2.86
15-day	471.00	159.27	173.36	472.91	3.78	156.45	172.86	1.01	464.42	153.70	0.08	173.30	0.12	464.87	3.43	149.31	0.10	172.80	1.13
7-day	353.84	125.40	166.53	356.82	4.18	120.88	165.50	2.06	360.57	130.24	-0.10	166.43	0.21	369.62	5.49	131.01	-0.19	165.26	2.55
5-day	323.62	112.96	164.10	325.06	2.66	111.02	163.58	1.03	324.64	113.74	-0.02	164.09	0.00	328.05	2.86	113.46	-0.05	163.56	1.07
4-day	308.58	114.22	164.41	309.65	1.98	113.82	164.13	0.56	310.40	115.72	-0.03	164.41	0.01	316.71	2.67	119.57	-0.11	164.05	0.73
3-day	290.43	106.28	162.57	291.08	1.33	106.33	162.43	0.29	290.71	106.56	-0.01	162.57	0.00	295.32	1.76	109.84	-0.07	162.39	0.37
2-day	251.59	91.67	158.69	251.80	0.58	91.86	158.65	0.07	251.42	91.52	0.00	158.69	0.00	253.16	0.73	92.92	-0.03	158.65	0.08
24-hr	200.30	69.75	151.47	200.45	0.46	69.86	151.43	0.07	201.49	70.64	-0.03	151.46	0.02	202.96	0.71	71.79	-0.06	151.39	0.15
18-hr	176.71	59.48	147.14	177.10	0.87	59.39	146.96	0.36	182.01	63.61	-0.16	146.95	0.38	184.86	1.56	65.24	-0.23	146.58	1.11
12-hr	153.57	51.22	143.23	154.15	1.26	50.07	142.69	1.07	157.14	53.90	-0.12	143.07	0.30	156.73	1.31	52.03	-0.09	142.60	1.26
8-hr	132.50	44.77	139.79	132.73	0.53	44.80	139.67	0.24	134.11	45.91	-0.07	139.74	0.11	135.20	0.77	46.50	-0.10	139.54	0.49
6-hr	120.23	38.09	136.05	120.36	0.32	38.17	135.99	0.12	119.11	37.19	0.06	136.01	0.08	119.67	0.25	37.62	0.03	135.98	0.15
4-hr	105.28	34.58	133.77	105.42	0.37	34.62	133.67	0.20	103.44	33.11	0.10	133.60	0.33	103.81	0.23	33.34	0.09	133.56	0.42
2-hr	80.56	22.26	122.48	80.99	0.71	21.53	121.63	1.71	79.05	21.01	0.13	122.20	0.57	79.21	0.63	19.98	0.16	121.28	2.41
1-hr	59.45	16.70	113.15	59.67	0.55	16.01	112.28	1.73	61.06	17.26	-0.18	112.41	1.48	61.02	0.52	16.61	-0.15	111.76	2.77
30-min	41.87	9.89	98.51	41.99	0.40	9.26	97.35	2.32	44.21	10.15	-0.45	94.66	**7.70**	44.05	0.18	9.85	-0.41	94.43	**8.15**
15-min	27.71	5.56	83.65	27.98	0.37	4.76	80.34	**6.63**	28.61	5.61	-0.30	81.18	**4.93**	28.65	0.31	4.99	-0.25	78.94	**9.43**
10-min	20.50	3.83	74.59	20.73	0.26	3.19	70.73	**7.72**	20.99	3.96	-0.23	73.33	2.50	20.98	0.25	3.35	-0.14	70.42	**8.33**
5-min	11.77	1.80	56.32	11.90	0.12	1.49	52.11	**8.42**	11.80	1.82	-0.03	56.30	0.03	11.74	0.12	1.34	0.21	51.75	**9.14**

Raingauge H08 at Eastern Treatment Works, Stubbs Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	$-\log L_i$	a	b	σ	$-\log L_i$	D	μ	σ	ξ	$-\log L_i$	D	a	b	σ	ξ	$-\log L_i$	D
31-day	670.01	228.82	183.27	681.33	11.04	209.91	181.07	**4.39**	646.66	207.71	0.20	182.78	0.97	654.15	9.01	184.50	0.25	180.42	5.69
15-day	470.18	171.58	175.65	474.74	5.77	164.62	174.52	2.27	458.59	161.94	0.13	175.37	0.57	460.30	4.94	151.77	0.17	174.18	2.95
7-day	349.27	128.19	167.18	354.85	5.79	117.14	165.01	**4.35**	355.35	132.83	-0.09	167.11	0.14	359.09	6.12	120.76	-0.07	164.98	4.40
5-day	321.63	120.30	165.58	325.75	4.88	111.27	163.82	3.51	325.70	123.30	-0.06	165.54	0.08	324.35	4.81	110.10	0.02	163.82	3.52
4-day	307.15	122.33	166.05	309.84	3.77	117.86	165.06	1.96	312.26	126.39	-0.08	166.00	0.09	315.17	4.12	122.10	-0.08	165.01	2.07
3-day	292.37	115.75	164.37	294.56	3.41	111.90	163.47	1.79	300.93	121.95	-0.14	164.19	0.36	303.16	3.93	117.97	-0.14	163.28	2.17
2-day	254.18	94.10	159.41	255.23	2.07	92.69	158.94	0.93	253.42	93.57	0.01	159.41	0.00	255.45	2.08	92.91	-0.01	158.94	0.93
24-hr	205.74	70.78	152.18	206.38	1.35	70.18	151.85	0.66	203.34	68.87	0.06	152.13	0.10	204.82	1.24	68.96	0.04	151.83	0.70
18-hr	180.31	62.83	148.65	181.26	1.69	61.35	147.99	1.33	182.51	64.45	-0.06	148.61	0.09	183.42	1.80	62.91	-0.06	147.94	1.43
12-hr	156.83	52.58	143.90	157.22	1.06	51.82	143.55	0.72	160.47	55.28	-0.13	143.76	0.30	160.38	1.13	54.17	-0.11	143.42	0.96
8-hr	134.37	46.66	140.91	134.75	0.86	46.32	140.62	0.59	135.91	47.79	-0.06	140.87	0.08	137.36	1.08	48.22	-0.10	140.51	0.81
6-hr	122.17	41.71	138.33	122.68	0.87	41.44	137.95	0.76	121.36	41.07	0.04	138.32	0.03	123.22	0.93	41.87	-0.02	137.95	0.77
4-hr	105.53	36.50	135.78	106.07	0.77	36.46	135.38	0.79	101.22	32.46	0.23	135.00	1.56	102.26	0.27	33.15	0.19	134.94	1.67
2-hr	79.72	22.36	123.04	80.47	0.78	21.70	121.86	2.34	76.46	19.20	0.29	122.13	1.81	78.40	0.50	19.97	0.17	121.48	3.12
1-hr	59.61	17.13	115.37	60.19	0.61	16.65	114.18	2.38	58.66	16.31	0.10	115.27	0.19	60.50	0.65	16.88	-0.03	114.17	2.41
30-min	42.47	9.69	99.98	42.70	0.31	9.40	99.01	1.95	42.88	9.99	-0.08	99.92	0.13	43.55	0.41	10.03	-0.16	98.77	2.43
15-min	26.60	5.13	82.90	26.91	0.30	4.39	79.48	**6.86**	26.96	5.32	-0.13	82.57	0.66	27.02	0.30	4.47	-0.04	79.45	**6.91**
10-min	20.15	4.04	76.53	20.53	0.30	3.23	71.24	**10.58**	20.40	4.15	-0.11	76.22	0.63	20.63	0.30	3.29	-0.06	71.18	**10.70**
5-min	11.55	2.29	61.67	11.74	0.16	1.87	56.92	**9.50**	11.70	2.34	-0.12	61.24	0.85	11.77	0.16	1.89	-0.04	56.88	**9.57**

Raingauge H09 at Kiangsu Chekiang College, 20 Braemar Hill Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	721.13	235.11	182.64	724.84	6.80	229.90	181.97	1.35	732.39	241.20	-0.09	182.50	0.29	745.21	8.76	242.83	-0.16	181.67	1.95
15-day	504.31	172.08	175.33	504.99	2.01	171.94	175.21	0.24	496.72	165.47	0.08	175.28	0.10	499.73	1.65	167.31	0.06	175.20	0.28
7-day	382.19	133.25	167.88	383.84	2.96	131.57	167.41	0.93	394.89	141.88	-0.17	167.56	0.64	424.29	10.08	169.78	-0.55	166.63	2.50
5-day	350.88	121.29	165.47	351.71	1.88	120.80	165.25	0.45	361.79	128.70	-0.16	165.20	0.54	367.98	3.45	132.25	-0.24	164.76	1.42
4-day	337.15	117.84	164.75	337.76	1.44	117.74	164.61	0.29	347.45	124.95	-0.16	164.50	0.50	353.14	2.98	128.64	-0.24	164.15	1.19
3-day	318.89	109.02	162.80	319.09	0.58	109.20	162.78	0.05	325.54	113.48	-0.11	162.66	0.29	328.46	1.51	115.83	-0.16	162.55	0.51
2-day	278.47	96.51	159.38	278.40	-0.39	96.20	159.37	0.03	284.79	100.14	-0.12	159.14	0.49	285.60	0.47	100.90	-0.13	159.12	0.51
24-hr	216.59	74.27	152.69	216.62	-0.55	73.98	152.65	0.09	223.77	79.12	-0.17	152.38	0.63	224.10	0.15	79.49	-0.18	152.37	0.63
18-hr	189.22	64.05	148.72	189.22	-0.53	63.63	148.66	0.11	197.31	69.40	-0.23	148.24	0.96	198.04	0.32	70.19	-0.25	148.23	0.98
12-hr	162.97	52.26	143.74	162.95	-0.52	51.88	143.66	0.16	165.34	53.87	-0.08	143.66	0.18	164.82	-0.40	53.24	-0.07	143.62	0.25
8-hr	142.15	44.73	139.47	142.15	-0.45	44.42	139.40	0.15	144.54	46.11	-0.10	139.31	0.32	144.19	-0.28	45.72	-0.08	139.29	0.37
6-hr	131.23	39.93	136.41	131.28	-0.81	38.97	136.10	0.63	133.05	40.87	-0.08	136.26	0.31	132.06	-0.72	39.46	-0.04	136.08	0.67
4-hr	115.03	34.11	132.73	115.07	-0.69	33.16	132.39	0.68	115.44	34.37	-0.02	132.72	0.02	114.05	-0.79	32.38	0.06	132.34	0.78
2-hr	86.74	20.61	120.35	86.74	-0.08	20.58	120.34	0.02	85.64	19.75	0.10	120.15	0.40	85.59	-0.11	19.69	0.11	120.12	0.46
1-hr	64.41	17.05	113.80	64.45	0.27	16.83	113.59	0.42	65.58	17.46	-0.12	113.37	0.87	65.50	0.22	17.27	-0.11	113.25	1.10
30-min	44.89	12.05	103.85	44.90	0.31	11.58	103.34	1.01	47.28	12.42	-0.37	101.04	**5.62**	47.30	-0.02	12.45	-0.37	101.04	5.62
15-min	28.65	6.99	89.46	28.70	0.26	6.54	88.39	2.13	29.95	7.07	-0.35	86.64	**5.65**	29.87	0.10	6.91	-0.33	86.50	5.91
10-min	21.51	4.73	79.43	21.60	0.21	4.30	77.73	3.41	22.37	4.83	-0.35	76.92	**5.03**	22.22	0.13	4.53	-0.26	76.49	5.88
5-min	12.10	2.25	60.19	12.16	0.12	2.02	58.02	**4.34**	12.56	2.32	-0.39	57.21	**5.97**	12.51	0.08	2.16	-0.32	56.42	**7.55**

Raingauge H10 at Peak Wireless Station, Mount Austin Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	674.13	221.40	182.16	677.59	5.36	218.74	181.65	1.04	658.60	208.13	0.14	181.94	0.45	665.59	4.30	208.75	0.10	181.54	1.25
15-day	473.84	173.38	175.00	475.83	3.56	171.48	174.58	0.84	481.66	178.99	-0.08	174.92	0.15	491.74	5.24	183.62	-0.17	174.36	1.28
7-day	354.21	130.25	167.84	356.05	2.74	129.22	167.37	0.94	356.05	131.87	-0.03	167.83	0.01	379.73	6.92	151.38	-0.32	167.06	1.55
5-day	326.03	122.30	166.07	327.25	2.10	121.68	165.75	0.64	332.40	127.65	-0.09	166.02	0.11	342.35	3.88	134.29	-0.22	165.48	1.19
4-day	315.49	120.99	165.86	316.30	1.56	120.81	165.68	0.36	321.56	126.32	-0.09	165.83	0.07	331.83	3.24	134.63	-0.23	165.47	0.78
3-day	299.94	109.61	163.47	300.36	1.07	109.68	163.37	0.21	298.08	107.98	0.03	163.47	0.01	304.23	1.40	113.15	-0.06	163.36	0.23
2-day	261.29	92.33	159.35	261.17	-0.59	91.77	159.30	0.08	252.03	83.77	0.19	159.11	0.47	242.91	-1.39	74.02	0.40	158.69	1.31
24-hr	212.27	68.37	151.54	212.23	-0.43	68.04	151.50	0.08	206.02	62.69	0.18	151.31	0.46	203.68	-0.73	60.07	0.24	151.12	0.82
18-hr	186.10	61.54	148.59	186.09	-0.03	61.51	148.59	0.00	183.38	59.17	0.08	148.53	0.11	182.64	-0.25	58.47	0.11	148.51	0.14
12-hr	163.01	49.87	143.86	163.05	0.25	49.95	143.84	0.04	152.30	39.18	0.45	142.72	2.29	152.11	-0.10	39.00	0.45	142.71	2.31
8-hr	140.74	42.25	139.42	140.67	-0.55	41.51	139.28	0.28	136.49	38.39	0.20	138.85	1.15	130.51	-1.18	30.93	0.51	137.50	3.85
6-hr	129.54	38.53	136.67	129.48	-0.32	38.19	136.62	0.11	127.20	36.65	0.11	136.44	0.45	125.55	-0.68	34.68	0.19	136.13	1.08
4-hr	113.22	38.01	136.39	113.27	0.16	38.08	136.37	0.03	111.42	36.81	0.09	136.15	0.47	111.37	-0.03	36.76	0.09	136.15	0.47
2-hr	85.78	28.90	128.67	85.97	0.44	28.88	128.50	0.36	85.41	28.74	0.02	128.65	0.04	85.81	0.42	28.79	0.01	128.49	0.36
1-hr	64.95	18.46	116.17	65.06	0.29	18.40	115.98	0.38	65.64	18.69	-0.07	116.02	0.30	66.15	0.42	18.87	-0.11	115.71	0.93
30-min	44.28	10.56	100.77	44.41	0.28	10.32	100.14	1.25	45.72	10.87	-0.25	99.20	3.13	48.72	0.99	12.93	-0.80	95.83	**9.87**
15-min	28.33	5.58	84.67	28.40	0.16	5.41	83.95	1.43	29.12	5.92	-0.26	83.62	2.10	29.30	0.21	5.86	-0.30	82.75	3.84
10-min	20.76	4.26	78.29	20.84	0.13	4.11	77.38	1.81	20.96	4.37	-0.09	78.14	0.30	21.01	0.14	4.20	-0.07	77.27	2.04
5-min	12.03	2.58	65.91	12.07	0.08	2.49	65.02	1.78	11.97	2.55	0.04	65.87	0.07	12.00	0.08	2.45	0.05	64.95	1.92

Raingauge H12 at Buxey Lodge, 37 Conduit Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	657.25	225.09	183.00	664.92	8.37	216.14	181.68	2.63	627.29	196.09	0.27	182.25	1.50	636.41	5.79	189.52	0.25	181.15	3.70
15-day	470.57	166.71	174.58	474.55	4.88	162.49	173.69	1.78	461.11	158.37	0.11	174.49	0.19	471.17	4.53	159.65	0.04	173.68	1.80
7-day	363.60	125.40	167.29	364.96	2.20	124.98	166.97	0.64	350.10	112.81	0.21	167.04	0.50	356.41	1.38	117.27	0.13	166.91	0.78
5-day	335.32	116.73	165.31	335.85	1.25	116.85	165.19	0.24	326.86	109.10	0.14	165.19	0.24	330.10	0.75	111.75	0.09	165.15	0.33
4-day	323.04	117.93	165.53	323.39	0.84	118.19	165.48	0.11	315.88	111.44	0.12	165.46	0.16	317.63	0.38	113.00	0.09	165.45	0.18
3-day	307.83	108.72	163.44	307.99	0.53	108.92	163.42	0.05	301.37	102.99	0.11	163.35	0.18	301.60	0.07	103.18	0.11	163.35	0.18
2-day	266.75	91.37	159.25	266.70	-0.77	90.57	159.18	0.14	257.14	82.42	0.21	158.87	0.77	246.30	-1.84	70.26	0.46	158.16	2.17
24-hr	215.46	67.69	151.33	215.39	-0.56	67.21	151.27	0.13	208.61	61.43	0.20	151.05	0.57	205.27	-0.90	57.54	0.30	150.74	1.18
18-hr	189.62	60.45	148.03	189.58	-0.41	60.11	147.99	0.08	188.16	59.23	0.05	148.01	0.04	186.27	-0.63	57.18	0.10	147.92	0.23
12-hr	165.34	51.56	144.17	165.30	-0.16	51.46	144.16	0.02	161.83	48.50	0.13	143.99	0.36	160.66	-0.44	47.28	0.17	143.92	0.51
8-hr	142.24	42.02	138.95	142.22	-0.27	41.81	138.91	0.07	138.71	38.86	0.16	138.68	0.52	137.36	-0.52	37.29	0.22	138.48	0.93
6-hr	129.18	37.04	135.34	129.21	0.12	37.10	135.33	0.02	128.12	36.24	0.05	135.30	0.09	128.15	0.03	36.27	0.05	135.30	0.09
4-hr	112.76	35.78	134.44	113.04	0.56	35.83	134.25	0.39	111.94	35.30	0.04	134.39	0.10	112.71	0.51	35.63	0.02	134.24	0.40
2-hr	86.68	26.43	126.10	87.52	1.05	25.26	124.74	2.70	86.80	26.48	-0.01	126.09	0.00	88.02	1.10	25.50	-0.04	124.71	2.77
1-hr	63.78	17.23	114.62	64.34	0.64	16.68	113.38	2.48	64.43	17.53	-0.07	114.51	0.22	66.75	1.19	18.29	-0.26	112.73	3.78
30-min	43.12	9.74	99.64	43.46	0.37	9.41	98.32	2.64	44.02	10.24	-0.17	99.23	0.83	47.26	1.32	14.99	-1.02	92.91	**13.47**
15-min	27.35	5.61	86.13	27.65	0.29	5.10	83.65	**4.96**	27.28	5.55	0.02	86.13	0.02	27.56	0.28	5.02	0.03	83.64	4.98
10-min	20.18	4.05	78.48	20.45	0.22	3.62	75.53	**5.91**	19.68	3.58	0.24	77.82	1.33	19.84	0.17	3.03	0.33	74.60	**7.76**
5-min	11.54	2.27	62.88	11.67	0.12	2.05	60.27	**5.22**	11.41	2.15	0.12	62.74	0.28	11.54	0.11	1.94	0.12	60.12	5.52

Raingauge H14 at Wo Hing House, Hing Wah Estate

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	$-\log L_i$	a	b	σ	$-\log L_i$	D	μ	σ	ξ	$-\log L_i$	D	a	b	σ	ξ	$-\log L_i$	D
31-day	620.11	206.31	180.12	627.07	9.09	191.50	178.45	3.35	612.26	200.31	0.07	180.04	0.18	611.51	8.85	177.93	0.16	178.14	3.96
15-day	446.92	157.49	173.07	449.23	4.29	153.14	172.38	1.38	440.39	152.39	0.08	172.97	0.20	440.66	4.03	145.96	0.11	172.23	1.68
7-day	330.97	117.23	164.62	333.65	3.89	111.96	163.50	2.23	345.93	128.36	-0.23	164.23	0.78	353.48	5.31	128.35	-0.31	163.07	3.10
5-day	300.02	106.71	162.60	302.31	3.36	102.52	161.59	2.02	302.95	109.10	-0.05	162.58	0.03	304.09	3.46	103.98	-0.03	161.58	2.03
4-day	289.06	100.63	160.99	291.27	3.07	97.48	160.05	1.88	292.32	103.22	-0.06	160.96	0.06	295.45	3.37	100.49	-0.08	159.98	2.01
3-day	269.59	90.66	158.01	271.68	2.67	88.49	157.13	1.74	274.66	94.12	-0.10	157.87	0.26	277.24	3.13	91.62	-0.11	156.91	2.19
2-day	231.76	74.51	152.88	233.57	2.25	72.82	151.97	1.82	235.71	77.21	-0.10	152.76	0.25	238.69	2.77	75.73	-0.12	151.68	2.41
24-hr	189.69	47.35	142.37	191.21	1.65	46.02	141.23	2.27	185.07	43.24	0.19	141.73	1.26	187.84	1.25	43.28	0.13	140.88	2.97
18-hr	165.58	46.99	140.81	167.09	1.75	44.86	139.43	2.77	166.20	47.31	-0.02	140.80	0.03	167.79	1.80	45.19	-0.03	139.40	2.82
12-hr	144.51	45.75	139.43	145.46	1.42	44.24	138.47	1.92	148.84	47.37	-0.17	138.76	1.34	149.77	1.68	45.80	-0.17	137.72	3.42
8-hr	130.75	41.34	136.84	132.38	1.65	39.22	135.15	3.36	138.39	45.35	-0.34	135.50	2.67	139.10	2.31	41.66	-0.31	133.40	**6.87**
6-hr	118.22	38.24	135.40	119.17	1.11	37.55	134.55	1.71	122.97	41.58	-0.22	134.96	0.90	125.26	1.91	41.07	-0.29	133.45	3.90
4-hr	105.53	35.54	133.73	106.45	1.14	34.56	132.73	2.01	106.94	36.48	-0.07	133.66	0.15	109.01	1.44	36.17	-0.13	132.48	2.51
2-hr	79.82	25.63	124.38	80.31	0.85	24.48	123.33	2.09	85.18	28.58	-0.38	122.90	2.96	84.35	0.84	26.71	-0.30	122.25	4.25
1-hr	59.36	16.06	112.20	59.69	0.64	14.89	110.76	2.88	61.16	16.78	-0.20	111.39	1.64	60.60	0.58	15.40	-0.11	110.54	3.32
30-min	41.65	8.90	96.34	41.80	0.37	8.29	95.00	2.68	43.57	9.48	-0.40	93.69	**5.30**	43.38	0.15	9.13	-0.34	93.56	5.55
15-min	26.72	5.16	81.69	26.76	0.18	4.87	80.78	1.82	27.75	5.29	-0.38	78.91	**5.56**	27.72	0.02	5.26	-0.37	78.90	5.57
10-min	20.05	3.36	71.09	20.11	0.15	3.07	69.55	3.07	20.68	3.57	-0.35	69.21	3.75	20.51	0.09	3.32	-0.23	68.93	4.31
5-min	10.89	1.87	56.66	10.90	0.06	1.80	56.00	1.33	10.95	1.89	-0.06	56.54	0.23	10.95	0.06	1.82	-0.04	55.95	1.42

Raingauge H15 at St. Stephen's College, Tung Tau Wan Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	$-\log L_i$	a	b	σ	$-\log L_i$	D	μ	σ	ξ	$-\log L_i$	D	a	b	σ	ξ	$-\log L_i$	D
31-day	621.24	183.39	176.40	621.62	2.00	182.41	176.30	0.20	627.05	186.91	-0.06	176.35	0.11	626.23	1.94	185.26	-0.05	176.26	0.28
15-day	442.06	135.13	168.59	442.36	1.42	134.60	168.50	0.20	445.04	137.24	-0.04	168.57	0.04	445.06	1.45	136.54	-0.04	168.48	0.23
7-day	330.38	102.34	160.77	330.81	1.31	101.92	160.61	0.31	349.43	115.06	-0.33	159.81	1.92	348.26	1.50	113.02	-0.31	159.69	2.16
5-day	297.63	94.39	159.41	298.02	0.97	94.41	159.31	0.20	299.34	95.71	-0.03	159.40	0.02	300.95	1.15	96.64	-0.06	159.28	0.27
4-day	288.63	95.42	159.33	288.87	0.69	95.51	159.28	0.10	294.67	99.48	-0.12	159.17	0.31	295.44	1.06	99.77	-0.13	159.08	0.50
3-day	269.50	87.30	156.82	269.72	0.60	87.43	156.77	0.09	276.25	91.31	-0.14	156.54	0.55	276.85	1.03	91.49	-0.15	156.44	0.75
2-day	231.97	78.46	153.81	232.15	0.72	78.34	153.74	0.15	246.89	88.43	-0.34	152.88	1.85	246.23	0.83	87.40	-0.33	152.82	1.97
24-hr	188.03	53.17	143.91	188.23	0.79	52.72	143.72	0.39	190.93	54.85	-0.10	143.73	0.36	190.88	0.79	54.23	-0.09	143.56	0.70
18-hr	167.18	47.27	141.47	167.26	0.59	46.82	141.33	0.28	166.43	46.72	0.03	141.46	0.03	166.02	0.63	45.88	0.05	141.29	0.36
12-hr	144.78	43.42	140.07	144.86	0.48	43.14	139.95	0.24	141.16	40.36	0.16	139.55	1.03	140.72	0.53	39.51	0.18	139.35	1.43
8-hr	131.23	40.99	138.80	131.26	0.16	40.98	138.79	0.03	127.13	37.33	0.19	137.99	1.62	127.06	0.14	37.24	0.19	137.98	1.65
6-hr	120.48	38.03	136.81	120.49	0.13	38.04	136.80	0.02	116.77	34.74	0.18	135.97	1.68	116.74	0.08	34.71	0.18	135.97	1.69
4-hr	104.17	37.02	135.36	104.20	0.27	36.92	135.32	0.09	102.76	36.28	0.07	135.14	0.45	102.71	0.30	36.14	0.07	135.08	0.57
2-hr	80.98	28.22	127.39	81.00	-0.08	28.25	127.38	0.01	82.05	28.70	-0.07	127.26	0.25	82.12	-0.13	28.73	-0.07	127.24	0.28
1-hr	60.87	17.88	114.96	60.89	0.19	17.81	114.88	0.17	62.43	18.41	-0.16	114.32	1.28	62.58	0.26	18.45	-0.17	114.19	1.54
30-min	42.86	10.26	101.02	42.90	0.15	10.20	100.87	0.31	43.90	10.90	-0.18	100.55	0.94	44.04	0.20	10.92	-0.20	100.33	1.38
15-min	28.77	5.91	87.42	28.83	0.15	5.81	86.97	0.90	28.88	6.00	-0.04	87.41	0.01	28.98	0.15	5.94	-0.05	86.96	0.93
10-min	21.41	4.05	77.98	21.44	0.08	3.98	77.65	0.66	21.20	3.87	0.10	77.83	0.30	21.18	0.08	3.77	0.12	77.45	1.08
5-min	12.16	2.29	62.61	12.15	0.04	2.25	62.39	0.43	12.18	2.31	-0.02	62.60	0.01	12.08	0.04	2.18	0.06	62.35	0.50

Raingauge H16 at Peak Primary School, 20 Plunkett's Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	666.76	227.17	183.58	671.36	6.69	221.54	182.82	1.52	635.44	196.06	0.28	182.45	2.27	641.55	4.63	192.44	0.27	181.80	3.57
15-day	480.84	160.89	174.27	482.91	3.56	158.75	173.80	0.95	439.07	118.40	0.56	172.95	2.64	441.59	1.30	118.02	0.55	172.67	3.20
7-day	357.02	127.78	167.75	358.05	1.79	127.66	167.53	0.43	346.64	118.38	0.16	167.57	0.36	351.12	1.15	121.56	0.10	167.47	0.56
5-day	330.98	116.05	165.07	331.51	1.19	116.16	164.95	0.23	325.59	111.49	0.09	164.99	0.16	328.01	0.91	113.24	0.05	164.92	0.30
4-day	314.79	117.07	165.34	314.92	0.44	117.21	165.32	0.03	308.09	111.15	0.11	165.24	0.20	308.08	0.00	111.16	0.11	165.24	0.20
3-day	297.56	108.20	163.08	297.54	0.02	108.22	163.08	0.00	295.95	106.89	0.03	163.08	0.02	295.63	-0.12	106.55	0.03	163.07	0.02
2-day	261.48	90.50	158.38	261.38	-0.89	89.36	158.27	0.21	261.14	90.26	0.01	158.38	0.00	257.68	-1.18	86.32	0.08	158.21	0.33
24-hr	208.11	68.26	151.13	208.32	0.50	68.38	151.07	0.11	206.63	67.04	0.04	151.11	0.04	207.70	0.45	67.88	0.02	151.07	0.12
18-hr	183.62	58.85	147.32	184.10	0.86	58.85	147.11	0.41	182.20	57.60	0.05	147.31	0.02	188.87	1.52	63.23	-0.14	147.05	0.53
12-hr	158.00	48.24	142.83	158.66	1.04	47.94	142.42	0.83	149.75	39.93	0.35	141.99	1.68	150.94	0.34	40.61	0.31	141.90	1.87
8-hr	137.15	42.51	139.82	137.27	0.25	42.70	139.79	0.06	130.38	35.64	0.33	138.72	2.18	127.90	-0.52	33.04	0.44	138.35	2.94
6-hr	125.49	38.14	137.00	125.81	0.53	38.30	136.84	0.33	120.05	32.83	0.28	136.01	1.99	119.97	-0.03	32.78	0.29	136.00	1.99
4-hr	108.51	38.52	136.83	108.89	0.67	38.53	136.57	0.52	105.86	36.41	0.13	136.47	0.71	106.65	0.40	36.79	0.10	136.36	0.92
2-hr	83.47	28.71	129.00	84.29	1.08	27.59	127.84	2.33	82.09	27.70	0.09	128.82	0.36	83.11	0.98	26.73	0.08	127.72	2.56
1-hr	62.63	19.03	117.99	62.91	0.56	18.48	117.31	1.37	62.15	18.72	0.05	117.94	0.12	62.29	0.54	18.03	0.06	117.24	1.52
30-min	44.31	9.44	99.67	44.37	0.21	9.28	99.31	0.71	44.15	9.35	0.03	99.63	0.07	44.17	0.21	9.15	0.04	99.27	0.79
15-min	27.57	6.03	87.25	27.58	0.05	6.01	87.20	0.10	27.90	6.21	-0.10	87.05	0.39	27.95	0.07	6.23	-0.11	86.97	0.55
10-min	20.70	4.53	79.71	20.72	0.10	4.43	79.31	0.80	21.07	4.73	-0.15	79.32	0.77	21.16	0.11	4.72	-0.18	78.94	1.52
5-min	11.97	2.39	63.05	11.99	0.06	2.33	62.54	1.02	12.07	2.43	-0.08	62.88	0.34	12.10	0.06	2.39	-0.09	62.37	1.36

Raingauge H17 at Magazine Gap Road Fresh Water Pumping Station

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	687.17	219.51	182.59	693.35	7.59	212.59	181.54	2.10	662.02	195.66	0.23	181.70	1.76	669.70	5.60	190.96	0.22	180.85	3.47
15-day	482.53	164.90	174.88	484.70	3.51	163.40	174.44	0.87	459.43	142.26	0.28	174.12	1.52	461.76	1.95	141.40	0.28	173.85	2.06
7-day	357.40	126.10	167.66	359.08	2.73	124.44	167.16	0.99	338.03	107.39	0.31	167.09	1.13	341.00	1.49	107.49	0.28	166.76	1.80
5-day	328.99	116.96	165.61	330.39	2.42	115.29	165.14	0.93	318.14	107.23	0.18	165.30	0.62	320.22	1.79	106.24	0.17	164.89	1.43
4-day	315.56	117.78	165.80	316.20	1.46	117.60	165.64	0.33	301.64	104.69	0.23	165.42	0.77	303.38	0.66	105.76	0.21	165.36	0.88
3-day	301.66	108.97	163.65	301.94	0.82	109.07	163.59	0.12	293.15	101.39	0.15	163.45	0.40	294.00	0.31	102.05	0.14	163.44	0.43
2-day	258.48	90.39	159.02	258.44	-0.18	90.30	159.01	0.01	250.73	83.51	0.17	158.65	0.73	250.05	-0.50	82.74	0.18	158.60	0.83
24-hr	209.62	68.68	151.52	209.63	0.15	68.68	151.51	0.01	206.18	65.83	0.09	151.40	0.23	206.20	0.03	65.87	0.09	151.40	0.23
18-hr	185.24	60.02	147.70	185.37	0.40	60.09	147.66	0.08	185.67	60.39	-0.01	147.70	0.00	187.32	0.57	61.77	-0.06	147.64	0.12
12-hr	160.65	50.36	143.18	160.85	0.68	50.25	143.03	0.32	160.41	50.17	0.01	143.18	0.00	162.40	0.80	51.59	-0.06	143.01	0.35
8-hr	138.01	43.79	139.79	137.98	-0.16	43.65	139.78	0.02	135.92	42.03	0.09	139.70	0.18	133.70	-0.56	39.79	0.18	139.57	0.45
6-hr	125.46	39.31	137.14	125.45	0.02	39.34	137.14	0.00	123.02	37.30	0.12	136.95	0.38	121.74	-0.38	36.07	0.17	136.87	0.54
4-hr	109.64	38.60	136.41	109.67	0.14	38.65	136.40	0.02	108.39	37.72	0.06	136.33	0.15	108.39	0.00	37.75	0.06	136.33	0.15
2-hr	85.69	26.42	126.41	85.93	0.55	26.18	126.06	0.70	85.35	26.22	0.02	126.39	0.03	85.84	0.54	26.12	0.01	126.06	0.70
1-hr	62.99	17.91	116.09	63.07	0.25	17.83	115.92	0.34	62.98	17.91	0.00	116.09	0.00	63.19	0.26	17.91	-0.01	115.92	0.35
30-min	42.90	10.60	102.64	43.06	0.29	10.38	102.01	1.26	42.69	10.47	0.04	102.61	0.06	42.95	0.28	10.31	0.02	102.00	1.27
15-min	27.59	5.69	86.58	27.61	0.05	5.69	86.53	0.12	27.41	5.54	0.06	86.53	0.11	27.45	0.04	5.56	0.05	86.49	0.19
10-min	21.01	3.61	75.25	21.04	0.06	3.59	74.99	0.52	20.72	3.37	0.15	74.86	0.78	20.76	0.04	3.36	0.14	74.68	1.14
5-min	11.95	2.39	64.19	12.04	0.10	2.25	62.56	3.27	11.78	2.23	0.14	64.03	0.34	11.91	0.09	2.13	0.11	62.45	3.49

Raingauge H18 at Shanghai Alumni Primary School, 14 Hong Shing Street, Kornhill

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	662.47	232.36	183.45	668.74	8.25	223.60	182.33	2.24	650.89	223.66	0.10	183.27	0.36	657.29	7.51	214.49	0.10	182.19	2.52
15-day	467.29	164.03	175.12	471.54	5.23	159.46	174.16	1.92	434.58	128.67	0.43	173.47	3.31	434.30	2.95	120.41	0.49	172.55	5.14
7-day	350.76	123.79	166.53	356.41	5.27	116.32	164.64	3.79	351.03	123.98	0.00	166.53	0.00	361.48	5.88	120.04	-0.08	164.57	3.91
5-day	324.94	118.51	165.25	329.72	4.83	111.72	163.53	3.45	327.37	120.34	-0.04	165.24	0.03	333.83	5.22	114.46	-0.07	163.47	3.57
4-day	317.94	114.30	164.21	321.81	4.20	109.43	162.82	2.77	322.41	117.58	-0.07	164.15	0.11	328.26	4.85	113.56	-0.11	162.67	3.09
3-day	300.82	105.57	161.96	304.18	3.86	101.36	160.65	2.62	306.33	109.18	-0.10	161.84	0.24	311.30	4.54	105.36	-0.13	160.40	3.13
2-day	260.91	87.93	156.88	262.38	2.28	86.54	156.25	1.26	268.32	92.11	-0.15	156.52	0.72	273.60	3.62	92.89	-0.23	155.54	2.67
24-hr	205.32	60.72	147.67	205.68	0.80	60.76	147.52	0.30	206.92	61.77	-0.05	147.63	0.08	209.22	1.25	63.13	-0.10	147.38	0.58
18-hr	176.89	53.84	144.37	177.34	0.73	54.04	144.20	0.33	181.45	56.92	-0.15	144.11	0.51	184.39	1.69	58.51	-0.23	143.59	1.56
12-hr	153.63	43.89	139.43	153.87	0.54	43.92	139.30	0.27	154.45	44.50	-0.03	139.42	0.03	155.56	0.70	45.13	-0.07	139.24	0.38
8-hr	138.49	35.92	133.75	138.59	0.17	36.06	133.73	0.04	139.62	36.46	-0.06	133.67	0.17	140.43	0.47	37.05	-0.09	133.56	0.37
6-hr	128.16	34.16	132.34	128.17	-0.01	34.16	132.34	0.00	129.95	35.10	-0.10	132.14	0.38	130.96	0.49	35.99	-0.14	132.05	0.57
4-hr	114.45	28.99	129.06	114.46	0.00	28.99	129.06	0.00	113.26	28.06	0.08	128.96	0.19	112.51	-0.22	27.35	0.12	128.91	0.29
2-hr	87.01	19.58	118.67	87.06	0.13	19.66	118.64	0.08	86.60	19.31	0.04	118.64	0.06	86.80	0.09	19.47	0.02	118.62	0.10
1-hr	64.73	14.14	110.01	64.96	0.42	13.70	109.25	1.53	64.65	14.09	0.01	110.01	0.00	64.78	0.41	13.58	0.02	109.24	1.55
30-min	43.91	10.36	100.39	44.36	0.67	8.82	97.26	**6.26**	45.86	11.02	-0.35	98.48	3.82	45.27	0.55	9.45	-0.18	96.89	**7.00**
15-min	26.81	5.55	84.68	27.04	0.32	4.96	82.25	**4.86**	27.31	5.75	-0.16	84.10	1.17	27.31	0.31	5.12	-0.10	82.07	5.22
10-min	19.93	3.81	74.80	20.07	0.21	3.41	72.44	**4.72**	20.19	3.90	-0.13	74.32	0.96	20.20	0.20	3.48	-0.07	72.32	4.96
5-min	11.05	1.95	57.86	11.10	0.10	1.76	55.98	3.77	11.12	1.98	-0.07	57.75	0.23	11.08	0.10	1.75	0.02	55.96	3.80

Raingauge H19 at Salesian English School, 16 Chai Wan Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	653.69	214.03	181.71	659.67	7.58	205.50	180.56	2.30	630.06	192.16	0.22	181.04	1.33	633.70	6.10	180.93	0.25	179.87	3.68
15-day	464.12	162.97	174.51	466.25	3.45	161.77	174.08	0.86	438.59	137.93	0.31	173.72	1.59	443.28	1.54	140.20	0.27	173.56	1.91
7-day	348.38	123.72	165.95	351.15	3.70	119.96	165.00	1.90	361.59	132.97	-0.19	165.57	0.76	374.00	6.76	137.01	-0.34	164.19	3.52
5-day	321.62	117.27	164.70	324.03	3.17	114.82	163.94	1.53	330.74	123.82	-0.14	164.51	0.38	336.97	4.47	123.55	-0.20	163.53	2.34
4-day	310.00	112.44	163.67	312.05	2.85	110.66	163.01	1.34	318.56	118.89	-0.14	163.51	0.33	325.08	4.23	119.66	-0.21	162.59	2.16
3-day	293.70	103.89	161.40	295.36	2.42	102.71	160.85	1.10	305.01	111.72	-0.20	161.03	0.75	310.24	3.96	112.11	-0.26	160.15	2.51
2-day	250.05	85.54	156.41	250.97	1.62	85.13	156.07	0.69	256.30	89.78	-0.13	156.20	0.43	261.21	2.83	91.85	-0.21	155.57	1.69
24-hr	200.94	57.78	147.13	201.38	0.88	57.67	146.91	0.44	197.94	55.40	0.10	146.98	0.29	198.94	0.67	55.73	0.08	146.83	0.59
18-hr	176.45	51.95	143.89	177.07	1.05	51.51	143.49	0.79	176.38	51.90	0.00	143.89	0.00	177.86	1.12	52.06	-0.03	143.48	0.82
12-hr	153.55	42.42	138.94	153.87	0.63	42.36	138.72	0.45	151.71	40.98	0.08	138.84	0.20	152.70	0.52	41.49	0.05	138.68	0.52
8-hr	136.10	36.20	134.69	136.48	0.57	36.25	134.44	0.51	135.00	35.35	0.06	134.64	0.10	136.35	0.55	36.14	0.01	134.44	0.51
6-hr	123.06	35.36	134.03	123.40	0.56	35.32	133.78	0.51	122.41	34.85	0.03	134.02	0.03	123.90	0.61	35.71	-0.03	133.77	0.52
4-hr	109.56	30.37	130.66	109.95	0.63	30.14	130.23	0.85	107.07	28.21	0.16	130.31	0.69	107.90	0.44	28.42	0.13	130.04	1.24
2-hr	82.36	20.37	120.06	82.98	0.78	19.18	118.63	2.85	81.07	19.33	0.12	119.78	0.56	81.36	0.69	17.80	0.15	118.17	3.78
1-hr	59.64	14.64	111.35	60.41	0.74	13.00	108.67	**5.35**	59.06	14.31	0.07	111.14	0.41	59.55	0.71	12.39	0.12	108.11	**6.47**
30-min	42.35	9.20	97.44	42.96	0.65	7.72	93.45	**7.98**	42.95	9.26	-0.12	96.90	1.08	43.18	0.63	7.78	-0.05	93.35	**8.18**
15-min	27.34	4.89	81.72	27.66	0.31	4.22	78.17	**7.08**	27.61	5.00	-0.10	81.48	0.47	27.75	0.31	4.26	-0.04	78.14	**7.16**
10-min	19.90	3.97	76.21	20.12	0.22	3.53	73.36	**5.70**	20.32	4.20	-0.20	75.68	1.06	20.32	0.22	3.64	-0.10	73.17	**6.09**
5-min	11.32	2.07	60.46	11.46	0.13	1.73	56.79	**7.33**	11.21	1.98	0.10	60.34	0.25	11.20	0.12	1.48	0.30	55.64	**9.64**

Raingauge H20 at Block 1-C2, Lei Chak House, Ap Lei Chau Estate

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	583.13	191.05	178.51	589.76	7.71	180.02	176.97	3.08	568.37	178.40	0.15	178.17	0.68	572.82	6.70	164.86	0.18	176.55	3.91
15-day	419.84	145.35	171.32	423.42	4.48	140.90	170.35	1.94	405.10	131.66	0.20	170.95	0.74	409.36	3.37	128.17	0.19	170.08	2.48
7-day	302.67	112.56	164.17	304.51	2.67	110.56	163.55	1.24	300.25	110.47	0.04	164.16	0.02	305.59	2.76	111.41	-0.02	163.55	1.24
5-day	281.62	103.25	162.09	282.57	1.79	102.33	161.75	0.67	274.92	97.22	0.12	161.99	0.20	277.73	1.48	98.01	0.09	161.70	0.77
4-day	273.82	100.19	161.39	274.82	1.79	99.28	161.04	0.71	262.84	89.91	0.21	161.19	0.39	265.49	1.22	90.69	0.18	160.92	0.93
3-day	254.49	94.24	159.83	255.21	1.40	93.81	159.58	0.49	244.06	84.52	0.22	159.61	0.43	247.72	0.89	87.03	0.15	159.48	0.70
2-day	217.87	75.64	154.45	217.90	0.06	75.69	154.45	0.00	204.96	62.65	0.35	153.70	1.50	201.01	-0.71	58.52	0.47	153.45	2.01
24-hr	176.42	56.03	146.08	176.66	0.53	56.09	145.99	0.19	174.45	54.29	0.07	146.06	0.04	176.63	0.53	56.04	0.00	145.99	0.19
18-hr	154.00	48.79	142.30	154.66	1.01	48.30	141.84	0.92	156.00	50.60	-0.07	142.28	0.04	160.62	1.67	53.49	-0.22	141.62	1.36
12-hr	134.68	42.38	138.53	135.55	1.15	41.44	137.74	1.58	136.26	43.69	-0.07	138.49	0.07	138.64	1.47	43.82	-0.13	137.59	1.88
8-hr	119.32	40.19	137.12	119.72	0.60	40.26	136.89	0.46	121.84	42.29	-0.11	137.05	0.15	127.60	1.86	46.67	-0.34	136.21	1.82
6-hr	110.55	36.49	134.28	110.98	0.57	36.63	134.03	0.51	115.52	40.26	-0.24	133.83	0.90	128.02	3.29	48.37	-0.82	129.73	**9.10**
4-hr	98.64	33.49	132.45	99.06	0.58	33.57	132.16	0.59	99.69	34.38	-0.06	132.43	0.04	107.56	2.41	41.22	-0.44	131.35	2.20
2-hr	79.62	24.91	124.39	80.27	0.72	24.55	123.53	1.73	81.45	26.22	-0.13	124.20	0.40	86.24	2.10	29.12	-0.44	122.29	4.21
1-hr	59.59	17.08	114.82	59.91	0.49	16.66	114.04	1.55	59.53	17.04	0.01	114.82	0.00	60.09	0.50	16.77	-0.02	114.03	1.57
30-min	40.78	10.01	100.60	41.02	0.34	9.60	99.49	2.20	40.91	10.07	-0.02	100.58	0.03	41.20	0.36	9.70	-0.03	99.46	2.26
15-min	26.10	5.02	82.39	26.28	0.20	4.76	80.81	3.16	26.29	5.11	-0.07	82.25	0.27	26.58	0.24	4.91	-0.11	80.50	3.78
10-min	19.36	3.63	73.45	19.55	0.19	3.18	70.44	**6.01**	19.56	3.67	-0.10	73.09	0.72	19.71	0.20	3.26	-0.09	70.23	**6.43**
5-min	11.22	1.84	56.75	11.34	0.11	1.60	53.36	**6.79**	11.25	1.86	-0.04	56.72	0.06	11.33	0.11	1.59	0.01	53.36	**6.79**

Raingauge H21 at Block B, 101 Repulse Bay Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	$-\log L_i$	a	b	σ	$-\log L_i$	D	μ	σ	ξ	$-\log L_i$	D	a	b	σ	ξ	$-\log L_i$	D
31-day	594.21	212.97	180.68	599.83	8.13	202.17	179.42	2.53	592.77	212.16	0.01	180.68	0.01	596.11	8.01	199.41	0.03	179.40	2.56
15-day	422.94	163.50	173.67	425.63	4.52	159.44	172.97	1.40	424.83	164.88	-0.02	173.66	0.01	428.36	4.67	161.47	-0.03	172.95	1.43
7-day	308.23	124.92	165.83	312.58	5.32	115.98	164.04	3.59	334.12	141.79	-0.37	164.71	2.25	332.45	6.04	129.24	-0.31	163.22	5.23
5-day	283.05	113.22	163.66	285.70	4.11	106.96	162.39	2.53	294.98	121.51	-0.19	163.31	0.69	292.44	4.20	111.92	-0.12	162.27	2.78
4-day	270.84	108.69	162.80	272.80	3.30	104.92	161.92	1.76	278.11	114.01	-0.12	162.66	0.28	278.46	3.50	109.01	-0.10	161.82	1.95
3-day	254.60	97.65	160.00	256.48	3.03	94.04	159.08	1.84	260.43	101.69	-0.11	159.87	0.26	260.39	3.15	96.71	-0.08	159.00	1.99
2-day	222.77	80.96	155.10	224.04	2.15	79.12	154.43	1.33	228.29	84.88	-0.12	154.94	0.31	229.44	2.43	82.75	-0.12	154.26	1.68
24-hr	177.92	54.98	145.99	179.00	1.63	53.36	145.19	1.60	174.03	51.62	0.14	145.73	0.51	175.06	1.42	50.01	0.14	144.93	2.12
18-hr	158.73	46.19	141.38	159.59	1.32	44.95	140.62	1.52	154.98	42.84	0.16	141.13	0.51	156.36	1.11	42.20	0.13	140.41	1.94
12-hr	136.96	41.43	138.65	137.71	1.24	39.91	137.79	1.72	133.85	38.79	0.14	138.32	0.66	134.47	1.10	37.17	0.15	137.37	2.55
8-hr	121.63	37.04	135.90	122.47	1.13	35.89	134.98	1.83	118.36	34.21	0.17	135.34	1.12	119.70	0.91	33.66	0.14	134.52	2.75
6-hr	109.86	34.70	134.72	110.94	1.25	33.20	133.47	2.52	104.13	28.94	0.33	133.28	2.88	105.67	0.78	28.19	0.30	132.19	5.06
4-hr	97.22	30.29	131.67	98.21	1.08	29.06	130.43	2.49	92.91	25.93	0.27	129.72	**3.91**	94.48	0.66	25.66	0.23	128.79	5.77
2-hr	74.45	20.08	119.27	74.72	0.45	19.84	118.78	0.97	73.93	19.80	0.05	119.19	0.16	74.37	0.42	19.68	0.03	118.74	1.05
1-hr	58.07	14.97	110.79	58.26	0.30	14.89	110.41	0.76	58.80	15.31	-0.09	110.60	0.38	59.19	0.40	15.26	-0.11	110.07	1.43
30-min	41.22	9.42	98.85	41.76	0.54	8.30	95.80	**6.09**	41.56	9.58	-0.07	98.73	0.23	41.91	0.54	8.38	-0.03	95.78	**6.15**
15-min	25.86	5.80	86.01	26.46	0.47	4.44	79.95	**12.11**	26.30	6.00	-0.14	85.63	0.76	26.47	0.47	4.45	0.00	79.95	**12.11**
10-min	19.15	4.31	78.26	19.70	0.40	3.06	70.57	**15.39**	19.55	4.49	-0.17	77.77	0.99	19.62	0.40	3.00	0.05	70.52	**15.48**
5-min	11.18	2.20	61.19	11.46	0.22	1.62	54.02	**14.35**	11.35	2.31	-0.14	60.95	0.48	11.41	0.22	1.58	0.06	53.97	**14.44**

Raingauge K01 at Civil Engineering and Development Building, 101 Princess Margaret Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	$-\log L_i$	a	b	σ	$-\log L_i$	D	μ	σ	ξ	$-\log L_i$	D	a	b	σ	ξ	$-\log L_i$	D
31-day	634.25	296.54	188.45	645.00	13.95	273.02	186.53	3.84	655.84	307.24	-0.13	188.13	0.63	674.98	16.03	294.36	-0.20	186.20	4.50
15-day	436.52	213.17	180.04	444.75	9.48	197.79	178.16	3.76	464.72	232.85	-0.24	179.57	0.95	479.70	12.38	224.83	-0.31	177.52	5.04
7-day	319.91	152.12	171.86	326.61	6.96	141.37	169.88	**3.96**	321.40	153.37	-0.02	171.85	0.01	332.07	7.49	146.00	-0.07	169.85	4.01
5-day	295.00	138.22	169.60	299.48	5.42	131.25	168.19	2.82	290.40	134.35	0.06	169.56	0.07	295.86	5.15	128.22	0.05	168.17	2.86
4-day	283.02	132.75	168.68	286.64	4.80	127.09	167.49	2.37	275.88	126.54	0.10	168.58	0.19	279.30	4.34	120.56	0.11	167.41	2.54
3-day	264.74	122.83	166.57	268.26	4.49	117.61	165.36	2.43	260.29	119.11	0.07	166.52	0.09	264.80	4.23	114.69	0.05	165.33	2.48
2-day	239.11	103.77	161.91	241.41	3.30	101.21	161.03	1.77	239.38	104.00	0.00	161.91	0.00	245.67	3.77	104.06	-0.07	160.97	1.88
24-hr	195.22	76.37	153.69	196.30	2.22	74.44	153.03	1.32	196.19	76.94	-0.02	153.68	0.02	197.87	2.30	75.44	-0.04	153.00	1.37
18-hr	174.60	69.03	151.06	175.84	2.05	67.40	150.33	1.45	176.31	70.14	-0.05	151.03	0.06	178.58	2.26	69.21	-0.07	150.25	1.61
12-hr	151.75	61.66	148.18	152.74	1.96	59.44	147.36	1.65	152.97	62.48	-0.04	148.17	0.04	153.06	1.97	59.64	-0.01	147.36	1.65
8-hr	132.82	52.17	142.93	133.46	1.41	51.14	142.36	1.14	137.47	54.08	-0.16	142.33	1.19	138.90	1.75	53.41	-0.20	141.62	2.61
6-hr	124.40	50.12	141.68	124.94	1.26	49.23	141.19	0.98	129.11	51.68	-0.17	140.94	1.49	130.40	1.59	51.16	-0.20	140.29	2.78
4-hr	109.80	46.47	139.90	110.42	1.39	45.25	139.24	1.33	114.10	48.20	-0.17	139.29	1.24	114.86	1.49	47.13	-0.18	138.61	2.60
2-hr	84.95	33.42	131.18	85.69	1.32	31.76	129.97	2.41	88.49	34.70	-0.19	130.35	1.65	89.96	1.50	33.73	-0.25	129.02	4.31
1-hr	59.50	20.48	118.19	60.26	1.00	18.93	116.21	**3.96**	62.16	21.26	-0.24	116.97	2.45	63.32	1.15	20.07	-0.30	114.69	**7.00**
30-min	39.75	10.59	101.66	40.50	0.67	9.18	98.03	**7.26**	40.92	11.20	-0.20	101.07	1.18	41.53	0.74	9.78	-0.20	97.47	**8.39**
15-min	24.84	6.77	89.73	25.74	0.58	4.91	81.88	**15.69**	26.30	7.52	-0.39	87.96	3.54	26.14	0.59	5.14	-0.15	81.54	**16.37**
10-min	18.46	4.65	80.16	18.98	0.36	3.54	73.68	**12.96**	19.13	5.01	-0.26	79.26	1.80	19.14	0.37	3.64	-0.08	73.58	**13.16**
5-min	10.67	2.69	65.55	10.81	0.15	2.33	62.37	**6.36**	10.93	2.76	-0.18	64.75	1.60	10.94	0.15	2.39	-0.10	62.12	**6.86**

Raingauge K02 at Block 25, Lung Cheung Court, 15-17 Broadcast Drive

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	$-\log L_i$	a	b	σ	$-\log L_i$	D	μ	σ	ξ	$-\log L_i$	D	a	b	σ	ξ	$-\log L_i$	D
31-day	714.61	265.39	186.67	720.49	8.56	258.68	185.82	1.69	703.90	257.07	0.08	186.58	0.17	713.55	7.97	253.18	0.05	185.80	1.74
15-day	486.33	194.84	178.46	490.77	6.19	189.30	177.51	1.91	481.76	190.95	0.04	178.44	0.03	552.18	18.66	254.74	-0.56	177.00	2.93
7-day	360.88	145.10	170.98	364.87	4.86	140.74	169.92	2.10	351.90	137.10	0.12	170.87	0.20	364.35	4.81	140.32	0.01	169.92	2.10
5-day	327.63	134.55	169.40	330.63	3.99	131.65	168.59	1.61	305.06	111.94	0.34	168.69	1.42	311.07	2.32	113.06	0.29	168.20	2.40
4-day	312.77	135.56	169.56	315.12	3.66	132.97	168.89	1.33	290.26	113.21	0.34	168.91	1.30	292.72	2.18	111.28	0.34	168.40	2.31
3-day	297.66	125.35	167.53	300.04	3.47	122.98	166.84	1.38	279.63	107.69	0.29	166.97	1.12	283.64	2.20	107.50	0.26	166.48	2.09
2-day	261.96	106.98	163.15	263.27	2.21	106.51	162.78	0.74	252.36	98.23	0.17	162.94	0.41	258.15	1.65	101.96	0.09	162.74	0.82
24-hr	210.48	78.24	155.25	211.22	1.51	77.78	154.94	0.60	203.22	71.72	0.18	154.87	0.76	204.38	1.03	71.70	0.17	154.67	1.16
18-hr	189.17	71.35	152.43	189.96	1.54	70.63	152.03	0.81	186.08	68.70	0.08	152.38	0.11	188.49	1.42	69.36	0.04	152.02	0.83
12-hr	166.77	61.65	148.53	167.43	1.54	60.28	148.01	1.03	165.23	60.32	0.05	148.52	0.03	164.67	1.45	57.81	0.09	147.98	1.11
8-hr	143.81	50.28	142.64	144.06	0.66	50.28	142.51	0.27	145.50	51.33	-0.06	142.57	0.14	146.60	0.92	51.79	-0.09	142.36	0.56
6-hr	130.82	47.47	140.94	131.03	0.62	47.40	140.81	0.26	132.62	48.39	-0.07	140.83	0.22	133.49	0.86	48.66	-0.09	140.63	0.63
4-hr	116.76	42.49	137.84	116.97	0.63	42.30	137.67	0.33	120.10	44.18	-0.14	137.45	0.77	120.75	0.85	44.21	-0.16	137.21	1.27
2-hr	90.37	30.28	128.70	90.63	0.62	30.02	128.38	0.64	98.26	34.73	-0.47	126.62	**4.17**	98.70	0.84	34.34	-0.49	126.06	5.29
1-hr	64.19	18.47	115.63	64.30	0.22	18.52	115.50	0.24	68.00	20.07	-0.38	113.58	**4.10**	69.69	0.81	20.85	-0.53	112.33	**6.59**
30-min	42.74	9.75	99.24	42.98	0.29	9.66	98.49	1.49	44.47	10.61	-0.32	97.88	2.71	44.67	0.43	10.10	-0.32	96.47	5.53
15-min	26.46	4.81	81.31	26.57	0.17	4.63	80.28	2.05	27.38	5.46	-0.35	80.45	1.71	27.17	0.18	5.00	-0.24	79.65	3.31
10-min	20.22	3.03	68.77	20.29	0.11	2.84	67.42	2.71	21.13	3.57	-0.55	66.35	**4.84**	21.53	-0.09	4.12	-0.80	66.07	5.39
5-min	11.81	1.63	52.41	11.81	0.04	1.57	51.92	0.97	11.90	1.64	-0.09	52.01	0.79	11.87	0.03	1.59	-0.06	51.79	1.23

Raingauge K03 at PMG Radio Monitoring Station, Hong Ning Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	679.42	257.07	185.62	693.64	14.12	230.10	182.93	**5.39**	675.76	254.29	0.03	185.62	0.02	681.71	13.48	219.70	0.10	182.85	5.56
15-day	465.02	193.11	178.40	474.12	9.35	176.20	176.19	**4.42**	456.37	185.83	0.09	178.33	0.15	455.73	8.40	159.35	0.20	175.90	5.00
7-day	347.87	149.68	171.05	358.49	8.70	133.65	167.82	**6.46**	359.82	158.37	-0.14	170.85	0.40	368.93	9.76	139.71	-0.14	167.52	**7.06**
5-day	324.43	137.00	168.81	333.30	7.45	123.38	165.88	**5.87**	333.46	143.66	-0.12	168.68	0.28	339.65	8.04	127.04	-0.09	165.73	**6.17**
4-day	310.43	130.67	167.79	317.97	6.72	118.71	165.17	**5.23**	314.10	133.54	-0.05	167.76	0.05	320.67	6.97	120.40	-0.04	165.14	5.29
3-day	289.68	123.92	166.22	296.87	6.58	111.29	163.42	**5.59**	296.83	129.17	-0.11	166.10	0.23	300.59	6.86	113.66	-0.06	163.36	5.71
2-day	250.91	101.55	160.59	256.86	5.48	91.78	157.82	**5.55**	268.62	113.36	-0.31	159.72	1.75	273.54	6.77	102.32	-0.33	156.85	**7.49**
24-hr	192.73	73.61	152.89	196.42	3.85	68.18	150.69	**4.39**	193.71	74.30	-0.02	152.88	0.02	199.93	4.23	70.73	-0.09	150.60	4.58
18-hr	170.92	66.25	149.56	174.15	3.46	60.67	147.22	**4.68**	175.88	69.04	-0.14	149.25	0.60	179.23	3.85	63.60	-0.15	146.85	5.41
12-hr	149.21	54.71	144.79	151.04	2.50	50.35	142.96	3.65	152.77	57.03	-0.12	144.60	0.37	152.72	2.54	51.69	-0.06	142.93	3.72
8-hr	131.50	44.71	139.06	133.17	2.28	40.41	136.85	**4.41**	135.91	46.87	-0.18	138.48	1.15	137.23	2.37	43.16	-0.18	136.50	5.11
6-hr	119.46	41.62	136.70	120.81	1.97	38.20	134.80	3.80	125.55	43.67	-0.26	135.22	2.96	131.21	2.95	44.90	-0.50	132.84	**7.71**
4-hr	106.15	38.61	134.88	107.50	1.92	35.19	132.83	**4.10**	112.72	41.34	-0.31	133.24	3.28	117.25	2.22	41.68	-0.50	130.98	**7.80**
2-hr	82.02	26.81	126.25	82.87	1.12	25.19	124.68	3.13	84.83	28.83	-0.19	125.92	0.66	86.49	1.40	28.02	-0.25	124.24	4.02
1-hr	61.68	16.40	114.84	62.10	0.50	16.16	114.02	1.64	58.08	12.75	0.46	113.74	2.19	58.75	0.17	13.04	0.40	113.49	2.70
30-min	41.12	9.94	101.69	41.42	0.35	9.71	100.66	2.05	39.88	8.76	0.25	101.15	1.08	40.66	0.25	9.05	0.14	100.51	2.36
15-min	25.89	5.71	87.15	26.20	0.30	5.14	84.56	**5.17**	25.46	5.35	0.14	86.87	0.55	25.49	0.26	4.47	0.27	83.93	**6.44**
10-min	19.25	4.13	78.34	19.57	0.25	3.52	74.52	**7.65**	19.12	4.03	0.06	78.30	0.10	19.18	0.22	3.16	0.21	74.10	**8.50**
5-min	11.04	2.31	62.95	11.18	0.14	1.97	59.49	**6.93**	11.06	2.33	-0.02	62.95	0.01	11.02	0.13	1.83	0.16	59.19	**7.52**

Raingauge K04 at Lee Cheung House, Shun Lee Estate, Lee On Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	$-\log L_i$	a	b	σ	$-\log L_i$	D	μ	σ	ξ	$-\log L_i$	D	a	b	σ	ξ	$-\log L_i$	D
31-day	709.76	255.35	185.70	719.99	10.61	243.31	184.12	3.16	691.08	238.67	0.14	185.57	0.27	718.69	10.47	242.54	0.01	184.12	3.17
15-day	479.70	190.83	178.04	486.54	7.45	180.87	176.51	3.04	468.10	180.24	0.12	177.98	0.12	481.10	6.91	175.97	0.05	176.51	3.06
7-day	357.34	147.77	171.24	365.09	6.95	138.15	169.11	**4.27**	355.23	146.04	0.03	171.24	0.01	370.13	7.59	141.54	-0.07	169.05	4.38
5-day	329.36	136.67	169.31	335.61	5.98	127.50	167.34	**3.94**	324.80	132.76	0.06	169.27	0.07	334.61	5.87	126.70	0.02	167.34	3.94
4-day	315.07	131.25	168.37	320.58	5.60	122.20	166.48	3.78	308.28	125.50	0.10	168.28	0.18	316.11	5.17	118.74	0.07	166.42	3.90
3-day	299.91	122.14	166.28	305.26	5.33	113.36	164.29	**3.98**	298.27	120.83	0.02	166.27	0.01	304.53	5.25	112.81	0.01	164.29	3.98
2-day	263.23	100.30	160.79	267.04	4.08	95.04	159.17	3.24	268.53	104.34	-0.10	160.70	0.17	275.39	4.97	100.88	-0.16	158.93	3.72
24-hr	208.44	65.45	150.49	210.36	2.20	64.03	149.49	2.00	203.59	61.21	0.14	150.23	0.52	208.36	1.93	62.37	0.06	149.45	2.07
18-hr	183.40	56.77	146.86	184.76	1.75	55.31	145.96	1.81	178.58	52.55	0.16	146.50	0.72	180.98	1.38	52.12	0.13	145.75	2.23
12-hr	156.39	47.33	142.34	156.87	0.97	46.74	141.95	0.77	150.65	41.95	0.24	141.71	1.25	149.94	0.73	40.14	0.29	141.27	2.13
8-hr	137.78	37.38	135.95	138.12	0.76	37.03	135.61	0.67	134.95	34.96	0.14	135.65	0.60	135.44	0.63	34.71	0.14	135.36	1.18
6-hr	124.05	34.25	132.69	124.29	0.63	33.96	132.40	0.57	126.12	35.67	-0.11	132.54	0.30	127.37	0.89	36.17	-0.16	132.14	1.09
4-hr	111.88	28.64	127.93	112.16	0.74	27.90	127.38	1.09	114.45	30.38	-0.16	127.64	0.57	114.87	0.80	29.96	-0.18	127.14	1.57
2-hr	86.64	20.78	119.54	87.42	0.92	19.67	117.89	3.30	89.19	22.57	-0.22	119.08	0.93	89.59	1.06	20.92	-0.20	117.36	4.36
1-hr	62.82	13.30	108.18	64.83	1.18	9.32	99.70	**16.96**	63.91	14.13	-0.15	108.00	0.36	64.22	1.13	8.82	0.12	99.46	**17.42**
30-min	42.48	8.83	96.39	43.52	0.72	6.45	89.11	**14.56**	44.88	10.01	-0.50	93.81	**5.15**	44.03	0.72	6.77	-0.14	88.84	**15.11**
15-min	25.92	5.13	82.49	26.39	0.37	4.03	76.99	**10.99**	26.37	5.27	-0.17	81.87	1.24	26.54	0.38	4.11	-0.07	76.91	**11.16**
10-min	18.88	3.97	75.47	19.16	0.27	3.16	70.70	**9.56**	19.35	4.08	-0.22	74.34	2.26	19.33	0.26	3.26	-0.10	70.57	**9.81**
5-min	11.08	2.23	60.22	11.26	0.16	1.74	54.99	**10.46**	11.37	2.27	-0.25	58.74	2.97	11.39	0.15	1.82	-0.14	54.69	**11.06**

Raingauge K05 at Ko Chi House, Ko Yee Estate

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	660.38	236.27	183.61	668.16	9.40	224.50	182.17	2.88	653.14	231.05	0.06	183.56	0.12	662.37	8.96	219.96	0.05	182.14	2.95
15-day	466.85	171.53	175.75	470.81	5.17	167.10	174.88	1.73	443.79	149.22	0.27	175.16	1.18	445.15	3.46	142.69	0.30	174.38	2.73
7-day	353.63	131.37	167.43	357.79	4.75	126.07	166.10	2.65	371.30	143.54	-0.24	166.89	1.09	383.70	8.09	143.53	-0.37	164.99	4.88
5-day	325.99	122.12	165.67	330.21	4.58	116.21	164.20	2.95	338.13	130.72	-0.18	165.37	0.60	343.92	5.90	125.23	-0.21	163.74	3.86
4-day	314.99	115.88	164.47	318.61	4.12	111.02	163.16	2.62	322.01	120.99	-0.11	164.34	0.25	327.15	4.92	116.59	-0.14	162.93	3.08
3-day	297.65	106.40	162.11	300.42	3.47	102.72	161.02	2.16	305.30	111.57	-0.13	161.91	0.40	309.39	4.25	108.30	-0.16	160.71	2.80
2-day	257.38	87.52	156.67	259.54	2.82	84.95	155.67	2.01	272.22	96.97	-0.30	155.73	1.88	273.95	4.04	92.72	-0.30	154.41	4.53
24-hr	198.60	64.99	149.72	200.01	2.06	63.28	148.86	1.72	199.04	65.29	-0.01	149.72	0.00	202.17	2.27	64.89	-0.06	148.82	1.80
18-hr	172.20	56.85	146.07	173.12	1.54	55.73	145.43	1.29	174.74	58.79	-0.08	146.01	0.12	176.89	1.85	58.51	-0.12	145.29	1.58
12-hr	149.98	47.97	141.95	150.54	1.18	46.92	141.40	1.10	149.65	47.70	0.01	141.95	0.00	149.87	1.15	46.36	0.03	141.39	1.11
8-hr	134.13	39.50	136.42	134.71	1.14	38.23	135.66	1.52	136.15	40.86	-0.09	136.30	0.23	137.16	1.28	40.08	-0.12	135.54	1.76
6-hr	121.32	37.95	135.60	121.91	1.14	36.60	134.79	1.62	122.59	38.94	-0.06	135.56	0.07	123.26	1.20	37.73	-0.07	134.77	1.66
4-hr	106.39	37.97	135.14	106.90	1.21	36.39	134.30	1.68	109.67	39.93	-0.16	134.82	0.64	110.28	1.25	38.91	-0.17	134.09	2.11
2-hr	82.13	24.91	123.88	82.33	0.63	24.22	123.34	1.08	84.02	25.73	-0.14	123.48	0.80	83.85	0.58	24.98	-0.12	123.09	1.59
1-hr	63.39	16.53	112.64	63.97	0.92	14.09	109.77	**5.73**	64.61	16.79	-0.13	111.99	1.29	63.94	0.92	14.07	0.00	109.77	5.73
30-min	45.51	11.07	101.50	46.21	0.81	8.32	96.17	**10.65**	47.68	11.27	-0.37	98.52	**5.94**	46.48	0.77	8.54	-0.05	96.15	**10.70**
15-min	28.43	4.58	79.62	28.87	0.38	3.54	73.78	**11.68**	30.27	5.92	-0.73	76.76	**5.72**	29.28	0.36	3.87	-0.21	73.56	**12.13**
10-min	20.56	3.81	74.38	20.86	0.30	3.08	69.53	**9.69**	21.60	4.25	-0.50	71.49	**5.78**	21.52	0.25	3.51	-0.39	68.36	**12.02**
5-min	11.71	1.78	55.29	11.86	0.13	1.42	50.38	**9.82**	11.91	1.88	-0.20	54.69	1.21	11.85	0.13	1.41	0.01	50.38	**9.82**

Raingauge K06 at Carnation House, So Uk Estate

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	665.18	245.08	185.27	671.84	8.95	236.63	184.19	2.15	636.75	218.24	0.23	184.54	1.46	640.89	7.01	207.29	0.26	183.52	3.49
15-day	466.62	176.69	176.09	470.69	5.36	172.67	175.22	1.73	455.02	166.31	0.13	175.98	0.21	470.39	5.33	172.31	0.00	175.22	1.73
7-day	349.51	131.03	168.68	353.33	4.29	128.10	167.68	2.00	335.05	117.48	0.22	168.24	0.88	345.45	3.30	121.28	0.11	167.59	2.18
5-day	311.48	126.76	168.02	314.46	3.64	124.68	167.26	1.53	293.13	108.50	0.29	167.22	1.60	298.59	2.00	110.05	0.24	166.84	2.37
4-day	298.86	123.98	167.47	301.13	3.24	122.16	166.85	1.25	281.72	106.94	0.28	166.68	1.60	284.54	1.87	106.44	0.26	166.29	2.36
3-day	282.60	111.35	165.01	283.93	2.25	110.73	164.65	0.73	266.47	94.86	0.30	163.83	2.36	267.79	1.04	94.81	0.29	163.68	2.67
2-day	250.06	92.22	160.00	250.69	1.21	92.45	159.85	0.29	237.50	79.98	0.27	159.01	1.98	237.55	0.01	80.01	0.27	159.01	1.98
24-hr	201.51	66.93	151.86	202.22	1.27	66.81	151.56	0.61	190.18	55.29	0.35	150.44	2.84	190.68	0.37	55.39	0.34	150.38	2.96
18-hr	180.38	63.78	149.44	181.05	1.29	63.34	149.10	0.67	178.94	62.68	0.04	149.41	0.05	180.78	1.27	63.14	0.01	149.10	0.68
12-hr	155.88	56.27	146.22	156.77	1.69	54.80	145.52	1.41	154.23	54.99	0.05	146.19	0.07	154.91	1.60	53.23	0.06	145.48	1.49
8-hr	133.71	46.21	141.07	134.42	1.22	45.66	140.55	1.04	131.96	44.83	0.07	140.98	0.16	133.61	1.14	45.08	0.03	140.53	1.07
6-hr	122.62	44.10	139.63	123.10	1.06	43.53	139.21	0.84	122.02	43.71	0.02	139.61	0.03	122.84	1.05	43.36	0.01	139.20	0.85
4-hr	110.78	41.30	137.53	111.00	0.80	40.87	137.27	0.52	111.91	41.95	-0.05	137.48	0.10	112.26	0.83	41.62	-0.06	137.21	0.63
2-hr	85.39	28.47	127.95	85.53	0.53	28.19	127.70	0.49	86.64	29.33	-0.08	127.87	0.17	86.87	0.56	29.14	-0.09	127.61	0.67
1-hr	60.68	18.56	117.12	61.05	0.63	18.02	116.30	1.65	60.80	18.64	-0.01	117.12	0.00	61.17	0.64	18.12	-0.01	116.30	1.65
30-min	42.14	10.22	101.78	42.41	0.36	9.97	100.83	1.89	41.97	10.09	0.03	101.77	0.02	42.66	0.39	10.16	-0.04	100.81	1.93
15-min	27.58	5.87	85.24	27.69	0.24	5.49	83.88	2.72	28.17	5.88	-0.19	83.94	2.58	28.27	0.24	5.62	-0.19	82.77	4.93
10-min	20.41	4.27	76.15	20.49	0.20	3.87	74.33	3.64	20.90	4.12	-0.22	73.88	**4.54**	20.95	0.17	3.89	-0.22	72.64	**7.02**
5-min	11.59	2.01	57.66	11.69	0.14	1.65	53.90	**7.52**	11.69	2.01	-0.08	57.27	0.79	11.69	0.14	1.66	0.00	53.90	**7.52**

Raingauge K07 at Wing C, Ching Tak House, Tsz Ching Estate

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	729.45	291.78	188.97	739.73	11.79	280.14	187.57	2.79	723.83	287.23	0.04	188.96	0.02	751.82	13.12	289.37	-0.08	187.52	2.89
15-day	509.71	207.01	180.02	515.71	7.42	199.09	178.84	2.36	506.45	204.04	0.03	180.02	0.01	546.15	10.99	228.56	-0.27	178.73	2.60
7-day	368.11	150.40	172.03	374.85	6.67	141.17	170.18	3.71	355.01	138.44	0.17	171.83	0.41	369.38	6.09	136.67	0.07	170.13	3.81
5-day	332.98	138.85	170.28	339.44	6.31	128.89	168.28	**3.99**	311.25	117.39	0.32	169.59	1.38	325.95	4.89	116.66	0.20	167.85	4.85
4-day	318.74	138.24	170.14	324.95	6.21	128.16	168.17	**3.95**	300.19	120.19	0.27	169.56	1.18	310.74	4.85	115.09	0.21	167.69	4.91
3-day	300.21	129.10	168.33	305.64	5.54	120.85	166.54	3.59	280.90	110.20	0.30	167.73	1.20	292.00	4.17	108.36	0.22	166.14	4.39
2-day	263.48	103.73	162.45	267.16	3.88	99.89	161.14	2.62	246.99	87.79	0.32	162.01	0.87	259.87	3.04	93.36	0.13	161.07	2.74
24-hr	207.45	79.15	155.01	209.70	2.74	76.30	153.86	2.30	205.98	77.98	0.04	155.00	0.03	211.18	2.91	77.54	-0.03	153.86	2.32
18-hr	185.77	72.45	152.22	187.72	2.51	69.61	151.05	2.34	190.12	75.59	-0.11	152.09	0.27	194.57	3.25	74.64	-0.17	150.74	2.97
12-hr	161.13	61.30	147.95	162.34	1.91	59.34	147.06	1.79	165.35	64.56	-0.13	147.82	0.27	167.64	2.31	63.48	-0.16	146.85	2.20
8-hr	140.41	47.35	141.15	141.74	1.76	45.30	139.91	2.49	144.16	50.14	-0.14	140.97	0.37	148.17	2.48	50.30	-0.25	139.44	3.42
6-hr	127.22	41.75	138.13	128.13	1.30	40.78	137.29	1.66	128.50	42.78	-0.06	138.10	0.05	133.88	2.12	45.67	-0.25	137.01	2.24
4-hr	112.06	36.29	134.11	112.81	1.07	35.67	133.37	1.48	117.44	40.35	-0.26	133.58	1.05	120.85	1.75	41.17	-0.40	132.13	3.95
2-hr	85.91	28.19	127.63	86.67	1.01	27.17	126.51	2.25	89.85	31.31	-0.25	127.24	0.79	95.75	1.97	34.84	-0.59	125.03	5.20
1-hr	59.78	15.80	112.22	60.49	0.72	14.73	110.17	**4.08**	65.33	20.41	-0.62	110.67	3.10	63.71	0.94	16.56	-0.39	108.48	**7.48**
30-min	40.37	10.26	100.32	41.96	0.97	6.81	90.58	**19.48**	43.47	11.55	-0.55	96.63	**7.38**	42.65	0.95	7.29	-0.18	90.25	**20.14**
15-min	25.34	5.65	85.24	26.26	0.54	3.37	74.30	**21.86**	25.86	5.91	-0.16	84.65	1.18	25.80	0.54	2.91	0.27	72.89	**24.69**
10-min	18.68	3.86	74.91	19.27	0.36	2.28	64.12	**21.59**	19.24	4.06	-0.26	73.47	2.87	18.90	0.36	1.91	0.33	62.63	**24.55**
5-min	10.54	2.34	61.76	10.86	0.21	1.45	51.92	**19.68**	10.85	2.43	-0.24	60.36	2.80	10.64	0.22	1.24	0.30	50.91	**21.70**

Raingauge K08 at FDBWA Szeto Ho Secondary School, 7 Kai Tin Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	$-\log L_i$	a	b	σ	$-\log L_i$	D	μ	σ	ξ	$-\log L_i$	D	a	b	σ	ξ	$-\log L_i$	D
31-day	666.66	231.17	183.35	675.51	9.59	218.41	181.76	3.18	650.69	217.51	0.14	183.09	0.51	660.49	8.34	205.79	0.13	181.55	3.59
15-day	466.76	173.64	176.08	472.02	6.05	167.22	174.90	2.35	442.70	150.46	0.28	175.48	1.20	448.59	4.09	145.35	0.27	174.45	3.25
7-day	351.50	133.81	168.05	357.22	5.47	127.20	166.33	3.43	366.41	144.59	-0.20	167.69	0.72	376.07	7.87	138.52	-0.26	165.51	5.08
5-day	324.59	123.29	166.18	329.86	5.04	116.37	164.40	3.58	332.71	129.77	-0.12	166.08	0.20	339.88	6.15	123.16	-0.15	164.14	4.10
4-day	313.00	117.12	165.07	317.64	4.53	111.42	163.47	3.19	314.20	118.13	-0.02	165.07	0.01	322.68	5.10	115.00	-0.08	163.40	3.34
3-day	294.23	107.92	162.73	298.24	4.20	102.47	161.17	3.14	299.14	111.67	-0.08	162.67	0.13	304.71	4.82	106.76	-0.11	161.01	3.44
2-day	254.33	91.45	157.62	258.39	4.11	84.42	155.47	**4.30**	278.41	107.10	-0.47	155.92	3.39	276.62	5.45	94.60	-0.39	153.79	**7.65**
24-hr	193.15	67.09	150.32	195.83	2.95	62.92	148.53	3.59	195.77	68.91	-0.07	150.26	0.12	201.06	3.55	66.82	-0.15	148.34	3.97
18-hr	168.81	56.53	146.00	170.63	2.06	54.29	144.71	2.58	170.85	58.16	-0.07	145.96	0.07	176.27	2.78	58.70	-0.19	144.46	3.07
12-hr	148.05	46.56	141.29	149.08	1.33	45.46	140.48	1.63	146.28	44.98	0.07	141.26	0.06	150.03	1.44	46.33	-0.04	140.47	1.64
8-hr	132.88	38.28	135.98	133.69	1.08	37.46	135.18	1.60	133.25	38.59	-0.02	135.98	0.00	144.74	3.09	48.53	-0.52	134.67	2.63
6-hr	119.42	36.71	134.84	120.15	1.07	35.84	134.06	1.56	119.93	37.10	-0.02	134.83	0.01	123.99	1.61	39.22	-0.19	133.92	1.83
4-hr	105.82	36.22	134.41	106.78	1.31	34.64	133.22	2.40	106.77	36.94	-0.05	134.39	0.05	109.00	1.51	36.46	-0.12	133.14	2.55
2-hr	78.99	23.28	123.23	79.46	0.66	22.74	122.44	1.58	78.12	22.48	0.07	123.22	0.03	80.49	0.75	23.67	-0.08	122.42	1.62
1-hr	61.27	15.40	112.42	61.82	0.61	14.42	110.75	3.34	61.10	15.27	0.02	112.41	0.01	61.41	0.58	14.08	0.05	110.73	3.39
30-min	43.28	10.41	102.16	43.82	0.54	9.07	99.27	**5.77**	43.28	10.41	0.00	102.16	0.00	42.76	0.50	8.07	0.23	98.77	**6.77**
15-min	26.63	5.50	85.42	26.88	0.25	5.08	83.33	**4.18**	26.83	5.66	-0.07	85.38	0.08	27.12	0.27	5.27	-0.08	83.28	4.27
10-min	19.31	3.75	75.19	19.50	0.20	3.33	72.44	**5.49**	19.48	3.86	-0.09	75.08	0.23	19.51	0.20	3.33	-0.01	72.44	5.49
5-min	11.02	2.22	60.21	11.18	0.14	1.93	56.50	**7.42**	11.38	2.32	-0.31	58.56	3.30	11.63	0.19	2.10	-0.44	53.96	**12.50**

Raingauge N01 at Administration Block, Shatin Water Treatment Works

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	731.57	254.39	186.16	736.72	7.41	249.86	185.45	1.43	695.43	218.95	0.29	185.38	1.56	701.72	4.67	216.50	0.27	184.89	2.55
15-day	522.37	188.47	177.84	524.10	3.07	188.14	177.59	0.50	496.90	164.30	0.27	177.59	0.51	503.20	1.39	168.77	0.21	177.51	0.67
7-day	380.63	142.23	170.91	382.79	3.09	141.27	170.45	0.91	355.47	117.02	0.36	170.08	1.66	359.74	1.06	119.53	0.31	169.97	1.88
5-day	343.05	142.68	170.74	345.31	3.61	139.79	170.11	1.26	330.56	131.48	0.17	170.46	0.55	330.87	2.79	126.54	0.20	169.85	1.78
4-day	327.05	140.12	170.42	328.82	3.30	137.39	169.89	1.07	311.09	125.08	0.22	169.96	0.93	307.15	2.56	116.45	0.32	169.30	2.25
3-day	313.30	128.86	168.22	314.69	2.70	127.15	167.81	0.83	299.93	116.53	0.20	167.80	0.84	299.14	2.02	112.64	0.24	167.38	1.69
2-day	277.11	104.57	162.76	277.76	1.43	104.47	162.59	0.34	267.15	95.58	0.18	162.36	0.82	268.64	0.70	96.44	0.16	162.30	0.94
24-hr	218.85	79.76	155.76	219.46	1.39	79.27	155.49	0.54	209.98	71.57	0.22	155.28	0.96	210.41	0.91	70.89	0.22	155.08	1.37
18-hr	197.06	72.54	152.35	197.65	1.47	71.58	152.00	0.71	199.09	73.96	-0.05	152.32	0.07	200.67	1.65	73.87	-0.08	151.94	0.83
12-hr	173.63	56.62	145.53	174.17	1.34	55.54	145.05	0.95	179.31	60.28	-0.18	145.14	0.78	181.12	1.74	60.33	-0.23	144.58	1.91
8-hr	145.65	47.90	141.15	145.94	0.74	47.77	140.95	0.39	149.09	49.93	-0.13	140.87	0.55	150.21	1.12	50.19	-0.16	140.54	1.22
6-hr	132.46	45.75	139.78	132.77	0.78	45.59	139.55	0.45	136.97	48.20	-0.18	139.28	1.00	138.12	1.20	48.33	-0.21	138.86	1.83
4-hr	117.44	40.37	136.59	117.47	0.10	40.41	136.58	0.01	121.11	42.39	-0.17	136.18	0.83	121.43	0.41	42.58	-0.18	136.11	0.95
2-hr	90.46	29.44	128.93	90.52	0.26	29.40	128.87	0.12	90.84	29.68	-0.02	128.92	0.02	90.89	0.27	29.63	-0.02	128.86	0.14
1-hr	65.27	19.44	118.00	65.84	0.75	18.77	116.82	2.35	66.09	20.00	-0.08	117.91	0.17	66.51	0.79	19.11	-0.06	116.72	2.55
30-min	43.27	10.93	102.59	43.69	0.45	10.50	101.09	3.00	45.17	12.16	-0.31	101.67	1.82	45.16	0.55	11.08	-0.25	99.91	5.36
15-min	27.20	5.03	82.65	27.44	0.27	4.47	80.06	**5.18**	27.83	5.47	-0.22	82.19	0.92	27.49	0.27	4.50	-0.02	80.05	5.19
10-min	19.93	3.85	74.76	20.15	0.27	3.11	70.66	**8.20**	20.40	3.99	-0.22	73.58	2.37	20.13	0.28	3.10	0.01	70.66	**8.21**
5-min	11.47	2.39	63.24	11.59	0.14	2.11	60.48	**5.53**	11.60	2.46	-0.10	63.06	0.37	11.60	0.14	2.12	-0.01	60.48	5.53

Raingauge N02 at Shun Wo House, Wo Che Estate

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	$-\log L_i$	a	b	σ	$-\log L_i$	D	μ	σ	ξ	$-\log L_i$	D	a	b	σ	ξ	$-\log L_i$	D
31-day	708.90	259.16	186.08	714.93	8.46	252.09	185.18	1.81	696.86	249.29	0.09	185.99	0.19	707.99	7.86	246.56	0.05	185.15	1.86
15-day	501.16	183.08	176.84	505.06	5.31	179.06	176.03	1.61	497.25	179.84	0.04	176.83	0.02	516.37	6.66	189.11	-0.11	175.99	1.70
7-day	373.22	146.49	170.91	378.48	5.59	140.31	169.48	2.85	374.61	147.61	-0.02	170.91	0.00	388.20	6.75	147.92	-0.12	169.36	3.09
5-day	334.98	133.25	168.93	339.45	5.10	126.67	167.52	2.84	317.91	117.09	0.25	168.60	0.67	325.39	3.86	113.82	0.21	167.29	3.29
4-day	313.28	127.13	168.14	316.96	4.58	121.06	166.90	2.49	285.18	97.44	0.47	166.81	2.66	283.10	2.59	85.08	0.61	165.08	**6.13**
3-day	299.40	122.20	167.04	302.59	4.36	116.34	165.83	2.41	275.68	97.76	0.41	165.99	2.09	272.46	2.97	84.03	0.56	164.16	5.75
2-day	263.68	99.44	161.54	265.77	3.09	96.48	160.67	1.73	242.54	77.83	0.45	160.58	1.91	238.37	1.98	68.43	0.62	159.43	4.22
24-hr	206.71	74.85	154.35	207.73	1.79	73.86	153.86	0.99	193.23	61.11	0.37	153.28	2.15	194.19	0.96	60.45	0.36	152.94	2.83
18-hr	184.24	67.55	151.00	184.84	1.31	66.96	150.67	0.66	181.63	65.41	0.07	150.94	0.12	182.90	1.20	65.39	0.05	150.64	0.72
12-hr	162.33	51.40	143.72	162.46	0.56	51.29	143.62	0.20	161.57	50.80	0.03	143.71	0.02	162.02	0.54	50.94	0.02	143.62	0.21
8-hr	138.86	42.00	138.17	138.84	-0.10	41.95	138.17	0.01	138.79	41.95	0.00	138.17	0.00	138.69	-0.11	41.84	0.01	138.17	0.01
6-hr	126.39	37.31	135.06	126.40	-0.54	36.77	134.89	0.34	126.60	37.45	-0.01	135.06	0.01	125.93	-0.58	36.43	0.02	134.88	0.36
4-hr	111.14	30.58	130.19	111.14	-0.46	30.08	130.02	0.35	110.91	30.40	0.01	130.19	0.00	109.32	-0.62	28.49	0.11	129.92	0.56
2-hr	86.96	22.65	122.80	87.08	-0.50	22.08	122.40	0.79	85.19	21.08	0.15	122.58	0.44	84.25	-0.57	19.39	0.25	121.85	1.90
1-hr	63.51	13.34	108.10	63.52	0.03	13.35	108.10	0.01	63.69	13.42	-0.02	108.09	0.04	63.72	0.05	13.45	-0.03	108.08	0.05
30-min	42.84	6.37	88.83	42.99	0.21	6.15	87.84	1.97	43.25	6.63	-0.12	88.63	0.39	43.38	0.23	6.38	-0.11	87.62	2.41
15-min	27.15	3.85	74.86	27.30	0.17	3.66	73.21	3.30	27.63	4.01	-0.23	73.68	2.36	27.69	0.19	3.73	-0.19	72.00	5.73
10-min	20.03	2.85	66.78	20.16	0.13	2.76	65.17	3.21	20.45	2.96	-0.27	65.10	3.35	20.51	0.15	2.72	-0.23	63.07	**7.42**
5-min	11.37	1.53	50.81	11.46	0.09	1.42	48.27	**5.07**	11.63	1.63	-0.31	49.22	3.19	11.65	0.10	1.43	-0.25	46.48	**8.67**

Raingauge N03 at Tsuen Wan Treatment Works, Shing Mun Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	674.94	266.39	187.05	683.42	10.19	255.91	185.79	2.52	655.68	249.90	0.14	186.77	0.57	665.31	8.56	240.10	0.13	185.62	2.85
15-day	468.38	182.48	176.81	473.80	6.46	176.09	175.64	2.35	460.83	175.95	0.08	176.77	0.08	610.93	20.49	268.15	-1.05	172.08	**9.46**
7-day	349.82	124.08	167.48	354.31	4.54	119.36	166.13	2.70	332.06	106.60	0.29	166.70	1.56	334.06	2.67	100.29	0.32	165.56	3.83
5-day	312.96	117.42	166.22	316.80	4.09	113.10	165.00	2.45	296.09	100.34	0.29	165.22	1.99	295.53	2.52	92.02	0.37	164.01	4.43
4-day	296.27	109.22	164.41	298.15	2.59	107.92	163.85	1.11	279.01	91.47	0.32	163.23	2.36	278.51	1.35	88.37	0.36	162.80	3.21
3-day	284.24	102.25	162.80	285.68	2.12	101.64	162.39	0.82	266.99	84.24	0.35	161.43	2.73	267.02	0.92	82.79	0.37	161.19	3.21
2-day	251.26	86.78	158.42	251.73	0.96	87.07	158.31	0.22	239.70	75.61	0.27	157.45	1.93	239.77	0.05	75.66	0.27	157.45	1.93
24-hr	206.69	68.51	151.43	207.31	1.30	67.84	151.09	0.69	204.08	66.53	0.07	151.35	0.17	204.63	1.15	65.66	0.07	151.03	0.81
18-hr	184.49	62.52	148.90	185.35	1.50	61.60	148.37	1.06	183.16	61.41	0.04	148.88	0.02	187.02	1.67	63.11	-0.05	148.36	1.07
12-hr	157.68	48.93	142.60	158.80	1.51	47.93	141.78	1.65	155.72	47.16	0.08	142.57	0.05	175.87	3.94	64.47	-0.60	140.71	3.78
8-hr	134.47	42.55	139.38	135.33	1.19	42.21	138.76	1.25	129.92	38.27	0.21	138.99	0.79	131.91	0.78	39.09	0.15	138.67	1.44
6-hr	122.86	40.64	137.70	123.57	1.11	40.26	137.15	1.10	122.18	40.10	0.03	137.69	0.02	126.01	1.45	42.33	-0.11	137.09	1.22
4-hr	107.61	34.29	133.65	108.27	0.91	34.14	133.12	1.06	104.72	31.65	0.17	133.41	0.48	107.21	0.76	33.21	0.05	133.10	1.09
2-hr	81.49	22.95	123.60	81.56	0.17	23.02	123.56	0.08	78.49	20.09	0.26	122.85	1.50	77.34	-0.25	19.05	0.35	122.74	1.73
1-hr	58.35	14.27	111.15	58.44	0.21	14.26	110.99	0.34	57.07	13.15	0.17	110.64	1.04	57.23	0.12	13.24	0.16	110.58	1.16
30-min	40.57	9.95	101.55	40.84	0.38	9.54	100.37	2.35	39.83	9.31	0.14	101.30	0.50	40.04	0.34	8.83	0.16	100.12	2.86
15-min	26.22	6.14	87.01	26.49	0.35	5.51	84.49	**5.05**	27.24	6.58	-0.31	85.73	2.58	27.13	0.33	5.80	-0.22	83.74	**6.54**
10-min	19.78	4.39	77.82	20.02	0.29	3.79	74.51	**6.62**	21.02	4.83	-0.53	74.38	**6.89**	20.69	0.22	4.09	-0.33	72.98	**9.68**
5-min	11.25	2.29	60.65	11.34	0.15	1.93	57.47	**6.35**	11.92	2.48	-0.55	56.66	**7.98**	12.84	-0.07	2.69	-1.09	50.87	**19.56**

Raingauge N04 at Kai Kwong Lau, Cho Yiu Estate

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	664.61	237.02	184.04	668.08	5.76	234.33	183.53	1.02	651.88	227.41	0.10	183.82	0.44	656.50	4.81	225.24	0.09	183.40	1.28
15-day	466.03	178.03	175.43	469.61	5.19	173.32	174.61	1.65	476.13	183.85	-0.10	175.26	0.34	537.41	20.37	242.24	-0.71	173.39	4.08
7-day	342.08	135.17	168.76	344.87	4.03	131.26	167.89	1.74	341.51	134.78	0.01	168.76	0.00	345.94	4.10	131.98	-0.01	167.89	1.74
5-day	309.82	127.47	167.35	312.53	4.00	122.75	166.39	1.92	307.91	126.13	0.03	167.33	0.03	310.16	3.89	120.99	0.04	166.37	1.96
4-day	298.75	120.71	166.02	300.63	3.31	117.36	165.31	1.43	295.85	118.61	0.05	165.98	0.08	297.18	3.16	114.74	0.05	165.26	1.52
3-day	282.69	111.75	164.10	283.82	2.55	109.43	163.62	0.98	279.30	109.36	0.06	164.03	0.14	279.65	2.46	106.30	0.07	163.52	1.16
2-day	249.01	91.22	158.74	249.26	1.01	90.91	158.63	0.22	246.89	89.80	0.04	158.70	0.08	247.19	0.95	89.46	0.04	158.59	0.29
24-hr	198.85	68.03	151.07	199.32	1.23	67.18	150.76	0.62	197.83	67.32	0.03	151.05	0.03	198.07	1.20	66.24	0.04	150.74	0.65
18-hr	180.33	60.16	147.67	180.93	1.52	58.47	147.10	1.15	180.89	60.56	-0.02	147.66	0.01	180.43	1.52	58.10	0.02	147.09	1.15
12-hr	157.84	50.40	143.42	158.49	1.35	48.93	142.78	1.28	156.02	48.94	0.07	143.36	0.13	155.67	1.31	46.58	0.11	142.63	1.58
8-hr	136.43	39.03	136.83	136.94	0.84	38.83	136.44	0.79	134.45	37.53	0.09	136.63	0.40	135.56	0.70	37.84	0.06	136.34	0.98
6-hr	124.60	33.49	132.95	125.04	0.74	33.31	132.55	0.80	122.73	32.07	0.10	132.71	0.48	123.68	0.61	32.33	0.07	132.43	1.05
4-hr	107.48	30.83	130.76	107.64	0.36	30.87	130.66	0.22	105.97	29.70	0.09	130.58	0.36	106.30	0.24	29.90	0.08	130.53	0.46
2-hr	81.10	24.00	123.77	81.25	0.35	23.94	123.58	0.37	80.97	23.92	0.01	123.77	0.00	81.33	0.36	23.99	-0.01	123.58	0.38
1-hr	59.17	17.44	115.15	59.39	0.46	17.11	114.61	1.08	59.43	17.56	-0.03	115.13	0.04	59.72	0.48	17.29	-0.04	114.58	1.14
30-min	41.46	11.64	103.96	41.78	0.46	11.16	102.72	2.49	42.49	12.07	-0.16	103.40	1.12	42.81	0.51	11.52	-0.17	102.07	3.79
15-min	27.00	7.07	90.29	27.21	0.31	6.54	88.53	3.51	28.33	7.46	-0.35	88.28	**4.02**	28.64	0.36	7.19	-0.41	86.55	**7.47**
10-min	19.99	5.27	82.71	20.27	0.31	4.55	79.47	**6.46**	21.14	5.68	-0.41	80.44	**4.54**	22.02	0.42	5.98	-0.70	77.41	**10.59**
5-min	11.33	2.84	66.70	11.43	0.14	2.58	64.51	**4.39**	11.94	3.07	-0.40	64.57	**4.26**	12.11	0.16	2.96	-0.48	62.41	**8.58**

Raingauge N05 at Cheung Chi House, Cheung Wah Estate

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	586.69	213.05	181.27	588.60	4.90	209.52	180.87	0.80	571.11	200.12	0.14	180.93	0.68	570.00	4.63	193.24	0.17	180.46	1.62
15-day	400.55	148.47	171.14	402.42	3.46	146.29	170.66	0.97	401.35	149.07	-0.01	171.14	0.00	406.07	3.76	149.12	-0.05	170.64	1.01
7-day	308.35	112.59	164.36	309.55	1.98	112.68	164.08	0.56	302.92	108.30	0.09	164.22	0.28	306.66	1.62	110.42	0.05	164.05	0.63
5-day	287.35	103.32	162.09	288.68	2.11	102.90	161.70	0.77	282.90	99.71	0.08	162.00	0.19	287.08	1.92	101.61	0.03	161.69	0.79
4-day	274.05	96.33	160.03	274.74	1.48	96.05	159.82	0.43	273.88	96.19	0.00	160.03	0.00	276.84	1.67	97.75	-0.04	159.80	0.46
3-day	261.02	87.29	157.35	261.50	1.21	87.07	157.18	0.34	262.19	88.13	-0.02	157.35	0.01	264.60	1.47	89.42	-0.06	157.14	0.42
2-day	233.58	74.69	153.57	233.97	1.06	74.47	153.40	0.35	231.96	73.44	0.04	153.55	0.05	233.11	1.00	73.79	0.02	153.39	0.36
24-hr	183.23	62.84	149.14	183.79	1.25	62.15	148.79	0.70	181.34	61.41	0.06	149.09	0.10	182.10	1.17	60.85	0.05	148.75	0.76
18-hr	167.67	58.10	146.52	168.35	1.45	56.87	145.98	1.08	168.87	58.77	-0.04	146.49	0.06	169.76	1.51	57.74	-0.05	145.95	1.15
12-hr	143.53	48.94	142.63	144.17	1.29	47.58	142.00	1.26	142.03	47.93	0.06	142.56	0.14	142.11	1.28	46.02	0.08	141.88	1.51
8-hr	125.89	45.48	141.13	126.80	1.45	43.66	140.18	1.89	122.81	43.00	0.13	140.79	0.68	122.94	1.37	40.30	0.17	139.70	2.85
6-hr	111.85	40.74	138.30	112.62	1.23	39.40	137.45	1.69	108.34	37.68	0.16	137.89	0.82	108.17	1.07	35.27	0.22	136.93	2.75
4-hr	93.51	33.47	133.63	94.46	1.24	31.97	132.42	2.41	89.56	29.74	0.23	132.69	1.88	90.44	0.99	28.16	0.24	131.45	4.37
2-hr	70.72	18.65	118.04	71.68	0.95	16.98	115.69	**4.69**	69.24	17.42	0.15	117.58	0.91	70.33	0.84	15.87	0.15	115.18	5.71
1-hr	50.39	13.59	108.14	51.20	0.91	11.40	104.47	**7.35**	51.46	14.10	-0.14	107.73	0.84	51.25	0.91	11.43	-0.01	104.47	**7.35**
30-min	35.71	9.47	97.97	36.25	0.66	7.60	93.71	**8.51**	36.66	9.63	-0.18	96.91	2.10	36.59	0.63	7.86	-0.08	93.65	**8.63**
15-min	22.85	6.60	88.63	23.44	0.54	5.13	82.99	**11.28**	23.38	6.67	-0.15	87.85	1.56	23.56	0.53	5.19	-0.04	82.92	**11.42**
10-min	16.79	4.98	81.48	17.23	0.41	3.84	75.83	**11.30**	17.13	5.04	-0.12	80.92	1.10	17.22	0.41	3.83	0.00	75.83	**11.30**
5-min	9.62	2.70	65.34	9.81	0.20	2.28	61.24	**8.20**	9.94	2.77	-0.22	63.95	2.78	9.97	0.18	2.32	-0.13	60.68	**9.32**

Raingauge N06 at C.N.E.C. Christian College, 6 Lei Pui Street, Shek Lei

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	718.10	282.91	188.15	723.28	8.40	271.64	187.22	1.85	713.78	280.19	0.03	188.13	0.03	713.93	7.99	264.27	0.07	187.17	1.96
15-day	504.21	213.22	179.77	507.59	5.78	205.85	178.94	1.66	529.80	227.48	-0.22	179.16	1.21	590.23	15.95	276.31	-0.72	176.82	5.90
7-day	370.69	152.95	171.30	373.56	4.39	146.98	170.35	1.90	380.57	157.87	-0.12	171.05	0.51	386.49	5.47	155.28	-0.16	170.05	2.50
5-day	332.02	145.27	170.23	334.77	4.38	138.49	169.18	2.09	337.51	148.35	-0.07	170.14	0.18	338.60	4.57	141.24	-0.05	169.15	2.17
4-day	316.49	137.73	168.98	318.29	3.61	132.51	168.20	1.55	318.90	138.94	-0.04	168.94	0.07	319.00	3.62	133.02	-0.01	168.20	1.55
3-day	301.46	128.89	167.34	302.66	2.98	124.93	166.76	1.17	303.09	129.81	-0.02	167.33	0.02	301.98	2.98	124.41	0.01	166.75	1.18
2-day	268.18	108.11	162.70	268.68	1.88	106.22	162.38	0.64	269.91	109.06	-0.03	162.68	0.04	269.65	1.88	106.86	-0.02	162.38	0.65
24-hr	213.52	84.84	156.09	214.27	2.13	81.66	155.41	1.36	216.51	86.15	-0.07	155.98	0.22	216.27	2.12	82.89	-0.04	155.38	1.42
18-hr	187.59	75.15	152.93	188.65	2.22	71.65	152.01	1.84	192.81	78.19	-0.13	152.68	0.48	192.43	2.28	74.44	-0.10	151.92	2.02
12-hr	166.12	59.25	146.38	166.99	1.86	56.12	145.37	2.02	172.27	62.28	-0.19	145.79	1.18	171.50	1.82	59.02	-0.15	145.10	2.58
8-hr	142.67	49.08	141.34	143.19	1.14	48.06	140.81	1.06	147.89	51.34	-0.20	140.63	1.42	149.12	1.55	50.96	-0.22	139.96	2.75
6-hr	130.10	45.01	139.19	130.41	0.79	44.58	138.90	0.59	134.96	47.37	-0.20	138.54	1.30	136.67	1.37	47.95	-0.25	138.01	2.37
4-hr	112.24	40.22	136.21	112.51	0.76	39.69	135.87	0.68	117.70	42.96	-0.25	135.33	1.75	121.56	1.76	45.67	-0.41	134.53	3.36
2-hr	86.76	29.49	127.43	86.80	0.57	28.69	127.04	0.77	91.23	30.48	-0.28	125.72	3.42	91.16	0.35	30.22	-0.28	125.62	3.62
1-hr	62.16	18.21	115.94	62.49	0.66	16.76	114.52	2.84	62.76	18.43	-0.06	115.83	0.22	62.25	0.67	16.59	0.03	114.51	2.86
30-min	43.16	11.54	104.31	43.57	0.54	9.99	101.77	**5.08**	43.37	11.62	-0.03	104.28	0.06	42.84	0.57	9.40	0.14	101.41	5.81
15-min	27.78	7.08	91.80	27.98	0.30	6.37	89.91	3.78	27.87	7.12	-0.02	91.79	0.02	27.52	0.31	5.98	0.14	89.64	4.31
10-min	20.70	5.00	82.21	20.85	0.23	4.40	79.92	**4.57**	20.96	5.09	-0.10	81.96	0.49	20.74	0.24	4.31	0.05	79.89	4.64
5-min	11.68	2.75	65.69	11.74	0.12	2.45	63.65	**4.07**	11.98	2.77	-0.20	64.47	2.44	11.93	0.11	2.54	-0.14	63.28	4.83

Raingauge N07 at Tuen Mun Technical Institute, Tsing Wun Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	489.59	236.59	182.71	508.85	15.16	193.08	178.10	**9.21**	493.87	238.05	-0.03	182.66	0.08	505.18	14.99	190.64	0.04	178.07	**9.27**
15-day	346.85	157.34	171.48	361.76	10.26	128.71	166.36	**10.25**	355.98	159.34	-0.11	171.09	0.79	370.43	11.33	131.80	-0.12	165.96	**11.04**
7-day	267.45	114.57	163.04	274.68	6.41	97.48	159.33	**7.41**	279.39	117.48	-0.20	162.16	1.76	281.95	6.73	100.59	-0.14	158.93	**8.22**
5-day	248.06	104.47	160.77	254.94	6.08	87.88	156.86	**7.81**	255.81	106.06	-0.14	160.21	1.12	258.04	6.14	89.13	-0.06	156.75	**8.04**
4-day	240.55	100.47	159.88	246.85	5.75	84.54	156.08	**7.59**	246.71	101.75	-0.12	159.47	0.82	248.44	5.77	85.24	-0.03	156.05	**7.65**
3-day	228.05	95.99	158.93	233.92	5.39	80.90	155.26	**7.34**	233.00	97.40	-0.10	158.66	0.54	233.97	5.39	80.90	0.00	155.26	**7.34**
2-day	206.72	91.16	157.82	211.28	4.74	79.01	154.82	**6.00**	211.00	92.80	-0.09	157.63	0.38	210.96	4.74	78.80	0.01	154.82	**6.00**
24-hr	167.58	80.88	155.12	171.51	4.12	70.51	152.28	**5.67**	170.48	82.70	-0.07	155.05	0.13	167.45	4.00	67.03	0.11	152.15	5.93
18-hr	153.65	72.96	152.57	156.77	3.32	65.87	150.29	**4.55**	155.05	73.87	-0.04	152.55	0.04	154.90	3.22	64.42	0.05	150.26	4.63
12-hr	135.90	61.80	148.49	138.44	2.84	56.08	146.32	**4.35**	135.32	61.50	0.02	148.48	0.01	135.79	2.72	54.15	0.09	146.17	4.63
8-hr	116.64	53.27	144.66	118.43	2.28	49.23	142.92	3.48	115.86	52.73	0.03	144.65	0.03	116.13	2.19	47.45	0.09	142.79	3.74
6-hr	106.97	47.39	141.55	108.23	1.77	44.86	140.25	2.58	106.58	47.13	0.02	141.54	0.01	107.18	1.72	44.09	0.04	140.22	2.65
4-hr	93.68	38.51	136.07	94.62	1.45	36.37	134.81	2.52	93.86	38.63	-0.01	136.07	0.00	93.79	1.43	35.74	0.04	134.79	2.57
2-hr	71.70	24.30	123.77	72.31	0.99	22.69	122.36	2.82	72.81	25.00	-0.08	123.67	0.20	72.42	0.99	22.78	-0.01	122.36	2.83
1-hr	51.59	13.47	107.96	51.83	0.46	13.00	107.08	1.75	52.23	13.72	-0.09	107.75	0.41	52.43	0.47	13.25	-0.09	106.89	2.14
30-min	36.50	6.34	88.70	37.08	0.50	5.40	84.28	**8.84**	36.88	6.57	-0.11	88.52	0.36	37.39	0.51	5.53	-0.11	84.03	**9.34**
15-min	23.46	4.75	80.86	23.94	0.41	3.97	75.83	**10.04**	24.35	5.31	-0.34	79.78	2.16	24.63	0.40	4.30	-0.32	74.47	**12.77**
10-min	17.40	3.86	75.91	17.79	0.31	3.16	70.78	**10.25**	17.80	4.15	-0.19	75.60	0.61	17.88	0.31	3.22	-0.05	70.74	**10.33**
5-min	9.71	2.58	65.33	9.93	0.20	2.11	60.76	**9.14**	9.87	2.67	-0.11	65.16	0.33	9.86	0.20	2.06	0.06	60.71	**9.24**

Raingauge N08 at Staff Quarter (Block C), Pik Uk Prison, Clearwater Bay

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	$-\log L_i$	a	b	σ	$-\log L_i$	D	μ	σ	ξ	$-\log L_i$	D	a	b	σ	ξ	$-\log L_i$	D
31-day	730.15	242.42	184.38	733.68	6.23	238.46	183.82	1.12	719.76	234.39	0.08	184.27	0.21	725.17	5.63	231.82	0.07	183.76	1.24
15-day	492.16	186.82	177.19	494.22	3.81	184.93	176.80	0.78	492.54	187.02	-0.01	177.19	0.00	499.54	4.25	189.08	-0.05	176.78	0.83
7-day	364.26	131.92	167.89	367.97	4.50	127.90	166.80	2.18	370.07	136.09	-0.08	167.82	0.15	379.90	5.91	136.03	-0.17	166.51	2.77
5-day	337.42	122.26	166.11	339.92	3.17	120.74	165.44	1.32	339.96	124.29	-0.04	166.09	0.03	350.23	4.51	128.33	-0.15	165.24	1.74
4-day	323.27	115.63	164.85	325.36	2.80	114.38	164.26	1.17	321.48	114.10	0.03	164.84	0.02	329.85	3.32	117.78	-0.07	164.22	1.26
3-day	305.69	105.00	162.25	307.47	2.58	103.50	161.64	1.22	305.32	104.73	0.01	162.25	0.00	311.08	2.98	106.19	-0.06	161.60	1.30
2-day	269.74	81.96	155.37	270.67	1.54	81.53	155.02	0.69	275.38	85.90	-0.12	155.19	0.35	281.17	2.93	88.99	-0.23	154.54	1.66
24-hr	208.80	60.85	148.73	209.09	0.68	61.03	148.63	0.20	203.80	56.49	0.16	148.37	0.71	204.13	0.26	56.66	0.15	148.35	0.75
18-hr	183.69	53.39	144.89	184.13	0.96	53.10	144.61	0.56	181.53	51.69	0.08	144.80	0.19	182.44	0.83	51.76	0.06	144.56	0.66
12-hr	159.63	44.90	140.35	159.77	0.41	44.91	140.28	0.14	157.63	43.22	0.08	140.27	0.16	158.09	0.30	43.52	0.07	140.23	0.24
8-hr	139.44	33.81	133.05	139.44	0.05	33.83	133.05	0.00	137.78	32.48	0.09	132.92	0.26	137.67	-0.06	32.38	0.10	132.92	0.27
6-hr	125.48	32.13	131.03	125.46	-0.18	32.03	131.00	0.05	126.83	32.98	-0.08	130.94	0.18	126.71	-0.09	32.86	-0.07	130.94	0.19
4-hr	111.29	28.94	128.17	111.28	-0.42	28.50	128.00	0.34	114.28	31.01	-0.19	127.81	0.73	113.99	-0.15	30.68	-0.17	127.79	0.75
2-hr	84.12	22.04	120.77	84.19	0.23	22.05	120.69	0.16	87.52	24.06	-0.27	119.76	2.02	90.08	1.09	26.09	-0.48	118.87	3.79
1-hr	61.13	10.98	103.84	61.31	0.29	10.93	103.35	0.99	60.69	10.63	0.08	103.77	0.15	61.39	0.30	10.98	-0.01	103.35	0.99
30-min	42.13	7.50	93.73	42.21	0.15	7.48	93.42	0.62	42.04	7.43	0.02	93.73	0.01	42.49	0.18	7.70	-0.07	93.39	0.69
15-min	26.55	4.27	79.38	26.64	0.12	4.22	78.70	1.36	26.26	4.02	0.13	79.23	0.30	26.62	0.12	4.20	0.01	78.70	1.37
10-min	19.49	3.12	70.73	19.57	0.12	2.95	69.44	2.59	19.49	3.12	0.00	70.73	0.00	19.55	0.12	2.94	0.01	69.44	2.59
5-min	11.17	1.44	50.48	11.21	0.06	1.37	49.10	2.76	11.22	1.48	-0.07	50.42	0.12	11.33	0.07	1.47	-0.15	48.97	3.02

Raingauge N09 at Meteorology Laboratory, Chinese University, Tai Po Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	$-\log L_i$	a	b	σ	$-\log L_i$	D	μ	σ	ξ	$-\log L_i$	D	a	b	σ	ξ	$-\log L_i$	D
31-day	722.54	271.40	187.20	727.93	8.63	263.67	186.36	1.68	713.14	264.41	0.07	187.13	0.15	720.45	8.13	258.05	0.05	186.32	1.77
15-day	496.34	190.65	178.22	499.81	5.29	186.58	177.52	1.40	483.23	179.44	0.13	178.00	0.45	486.85	4.41	175.35	0.13	177.35	1.74
7-day	375.01	148.23	171.37	378.54	4.75	143.64	170.41	1.92	370.42	144.80	0.06	171.31	0.13	375.17	4.50	141.20	0.04	170.37	1.99
5-day	338.53	137.52	169.72	341.79	4.64	132.11	168.68	2.10	329.97	130.61	0.12	169.48	0.48	332.76	4.16	124.65	0.13	168.41	2.64
4-day	325.03	132.07	168.82	327.50	4.01	127.65	167.97	1.69	314.20	122.75	0.16	168.43	0.78	315.28	3.52	116.76	0.18	167.50	2.64
3-day	307.16	125.29	167.50	309.36	3.64	121.54	166.74	1.53	295.55	115.01	0.18	167.02	0.96	296.53	3.11	109.96	0.20	166.18	2.64
2-day	265.01	107.15	163.48	266.29	2.61	105.23	162.98	1.00	254.12	97.41	0.19	162.89	1.18	255.32	2.15	95.32	0.19	162.38	2.19
24-hr	209.48	82.47	156.90	210.36	1.89	81.13	156.45	0.90	202.06	76.15	0.16	156.04	1.72	203.12	1.57	75.03	0.16	155.59	2.61
18-hr	186.52	73.54	153.57	187.22	1.53	72.57	153.18	0.79	181.07	69.16	0.13	153.07	1.00	182.30	1.26	68.78	0.12	152.73	1.70
12-hr	163.06	54.31	144.81	163.46	1.00	53.78	144.50	0.63	162.92	54.22	0.00	144.81	0.00	163.46	1.00	53.78	0.00	144.50	0.63
8-hr	142.59	42.67	138.64	142.61	0.06	42.70	138.63	0.00	142.07	42.35	0.02	138.62	0.03	142.08	0.00	42.36	0.02	138.62	0.03
6-hr	132.36	38.98	136.04	132.34	-0.07	38.91	136.04	0.01	132.69	39.14	-0.01	136.04	0.01	132.63	-0.03	39.09	-0.01	136.04	0.01
4-hr	116.70	33.52	131.81	116.69	-0.14	33.41	131.80	0.03	118.07	34.12	-0.07	131.67	0.28	118.10	0.02	34.15	-0.08	131.67	0.28
2-hr	88.29	21.78	120.98	88.32	-0.32	21.47	120.79	0.38	88.94	22.19	-0.05	120.94	0.10	88.55	-0.31	21.64	-0.02	120.79	0.39
1-hr	61.89	13.49	108.43	61.92	0.12	13.47	108.36	0.13	62.44	13.84	-0.08	108.34	0.18	62.55	0.16	13.87	-0.09	108.25	0.36
30-min	41.38	8.74	96.83	41.67	0.43	8.00	94.96	3.75	43.75	10.50	-0.48	95.51	2.65	42.42	0.39	8.58	-0.17	94.76	4.14
15-min	27.14	5.53	85.99	27.22	0.20	5.24	85.05	1.88	26.92	5.36	0.07	85.92	0.15	26.63	0.23	4.69	0.22	84.52	2.95
10-min	20.07	4.24	79.07	20.16	0.17	3.98	77.86	2.41	19.84	4.04	0.10	78.97	0.20	19.60	0.18	3.45	0.27	77.27	3.60
5-min	11.22	2.22	61.91	11.25	0.07	2.14	61.22	1.38	11.19	2.20	0.03	61.90	0.03	11.15	0.07	2.06	0.08	61.11	1.60

Raingauge N10 at Emmanuel Primary School, 13 Miles, Castle Peak Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	$-\log L_i$	a	b	σ	$-\log L_i$	D	μ	σ	ξ	$-\log L_i$	D	a	b	σ	ξ	$-\log L_i$	D
31-day	644.19	243.19	184.62	647.62	5.94	239.60	184.10	1.05	630.89	232.93	0.10	184.42	0.41	634.54	5.13	229.13	0.10	183.94	1.37
15-day	457.01	164.16	174.09	461.38	5.40	159.47	173.08	2.03	452.09	160.14	0.06	174.06	0.07	463.29	5.65	161.30	-0.02	173.07	2.04
7-day	348.32	123.87	167.34	352.33	4.47	117.73	165.97	2.74	337.49	114.43	0.17	166.87	0.94	339.36	3.57	105.95	0.21	165.42	3.83
5-day	323.71	116.36	165.59	326.68	3.76	111.25	164.46	2.25	314.56	108.51	0.15	165.23	0.72	314.40	3.07	100.05	0.21	163.95	3.27
4-day	304.28	116.20	165.19	305.84	2.66	113.91	164.63	1.11	299.18	112.22	0.08	165.07	0.24	300.37	2.36	109.48	0.09	164.52	1.34
3-day	283.94	108.09	163.46	284.92	1.90	107.24	163.14	0.64	277.16	102.55	0.12	163.24	0.45	278.59	1.50	102.02	0.11	162.96	0.99
2-day	250.52	97.48	160.63	250.94	1.23	97.16	160.47	0.31	245.74	93.66	0.09	160.50	0.27	246.39	1.01	93.44	0.09	160.36	0.53
24-hr	196.58	76.72	154.16	197.04	1.36	75.61	153.85	0.62	195.39	75.75	0.03	154.15	0.02	194.57	1.33	73.49	0.06	153.82	0.68
18-hr	177.31	68.08	151.00	177.73	1.20	67.13	150.70	0.61	176.75	67.63	0.02	151.00	0.01	176.38	1.18	66.01	0.04	150.69	0.63
12-hr	155.03	54.76	144.61	155.44	1.26	53.42	144.12	0.98	159.29	57.27	-0.14	144.30	0.62	159.31	1.29	55.95	-0.13	143.90	1.44
8-hr	132.13	50.27	142.47	133.04	1.58	48.07	141.49	1.96	134.94	51.91	-0.10	142.28	0.37	135.32	1.66	49.61	-0.09	141.38	2.18
6-hr	118.21	44.99	139.78	119.11	1.53	42.72	138.66	2.24	119.51	45.77	-0.05	139.72	0.11	119.73	1.55	43.15	-0.02	138.65	2.26
4-hr	100.32	38.80	135.73	100.99	1.16	37.46	134.87	1.72	102.75	40.20	-0.11	135.51	0.42	103.53	1.31	39.06	-0.12	134.65	2.15
2-hr	75.42	28.22	127.54	75.93	0.91	27.05	126.58	1.92	76.86	29.09	-0.09	127.39	0.29	76.97	0.94	27.73	-0.07	126.50	2.07
1-hr	56.63	18.56	116.40	57.44	0.89	16.90	114.14	**4.53**	58.25	19.49	-0.16	115.99	0.82	58.38	0.94	17.45	-0.10	113.96	4.89
30-min	39.47	11.74	104.75	40.07	0.63	10.29	101.88	**5.74**	40.44	12.38	-0.15	104.49	0.51	40.04	0.63	10.26	0.01	101.88	5.74
15-min	25.66	6.44	88.39	25.96	0.36	5.60	85.44	**5.90**	26.47	6.76	-0.23	87.45	1.89	26.30	0.35	5.79	-0.11	85.24	**6.29**
10-min	19.42	3.96	76.82	19.52	0.15	3.76	75.59	2.45	19.47	4.00	-0.02	76.81	0.02	19.54	0.15	3.78	-0.01	75.59	2.45
5-min	11.15	2.49	64.24	11.16	0.07	2.39	63.65	1.18	11.21	2.52	-0.05	64.17	0.14	11.18	0.07	2.40	-0.01	63.65	1.18

Raingauge N11 at Tsing Yi South Fire Station, 100 Tsing Yi Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	618.25	231.70	183.98	629.18	10.59	214.55	181.97	**4.04**	591.24	206.41	0.23	183.08	1.82	595.98	8.23	181.29	0.31	180.78	**6.40**
15-day	441.94	152.79	172.78	452.40	8.23	134.89	169.65	**6.28**	428.04	140.55	0.18	172.30	0.97	430.34	6.56	113.31	0.32	168.70	**8.17**
7-day	334.90	128.45	167.50	345.85	7.75	105.88	163.04	**8.93**	333.62	127.66	0.02	167.49	0.01	336.30	7.05	97.39	0.17	162.68	**9.64**
5-day	308.83	114.42	164.64	318.37	7.05	93.15	160.17	**8.96**	306.02	112.50	0.05	164.60	0.10	302.98	6.48	77.62	0.33	159.03	**11.23**
4-day	291.27	108.18	163.30	298.12	5.82	93.53	160.04	**6.51**	286.91	104.96	0.07	163.19	0.22	284.90	5.14	80.82	0.27	159.27	**8.05**
3-day	268.16	96.21	160.74	272.10	4.01	88.09	158.76	**3.96**	260.16	89.41	0.16	160.25	0.96	256.33	3.34	72.17	0.36	157.48	**6.52**
2-day	236.98	81.11	156.57	239.22	2.78	76.32	155.24	2.65	229.24	74.32	0.19	155.87	1.39	226.78	2.32	63.59	0.33	153.84	5.45
24-hr	189.87	60.50	148.73	192.29	2.58	55.31	146.76	**3.94**	185.63	57.13	0.14	148.31	0.84	185.54	2.18	48.89	0.24	145.79	5.87
18-hr	171.83	55.78	145.84	174.78	2.85	48.49	142.92	**5.84**	171.12	55.26	0.02	145.84	0.02	168.69	2.59	42.69	0.25	142.34	**7.01**
12-hr	154.84	45.37	140.22	157.04	2.13	40.76	137.73	**4.96**	154.85	45.36	0.00	140.22	0.00	156.00	2.05	39.99	0.05	137.70	5.03
8-hr	135.36	39.06	136.55	138.14	2.11	33.74	133.00	**7.09**	134.46	38.59	0.04	136.49	0.12	136.69	1.96	32.80	0.08	132.83	**7.44**
6-hr	124.32	36.55	134.66	127.32	2.24	30.09	130.26	**8.80**	123.68	36.29	0.03	134.61	0.10	125.69	2.15	29.03	0.10	129.92	**9.49**
4-hr	110.03	32.30	131.28	113.44	2.35	25.12	125.48	**11.60**	109.80	32.22	0.01	131.27	0.01	112.13	2.27	24.21	0.09	125.21	**12.14**
2-hr	83.07	24.49	123.49	85.93	1.92	19.20	117.23	**12.51**	84.82	25.27	-0.13	123.13	0.71	87.36	2.09	19.97	-0.13	116.91	**13.16**
1-hr	58.25	17.30	115.58	59.69	0.98	16.24	112.65	**5.86**	57.68	16.83	0.06	115.54	0.09	61.12	1.30	16.94	-0.15	112.15	**6.86**
30-min	40.11	10.81	103.69	41.13	0.70	9.69	99.92	**7.53**	39.40	10.22	0.13	103.46	0.44	41.32	0.74	9.81	-0.04	99.90	**7.58**
15-min	26.29	4.94	83.00	26.49	0.23	4.62	81.22	3.56	26.15	4.84	0.05	82.95	0.10	26.37	0.22	4.53	0.05	81.18	3.64
10-min	19.68	3.64	74.63	19.78	0.14	3.43	73.30	2.65	19.73	3.66	-0.02	74.62	0.02	19.74	0.14	3.40	0.02	73.30	2.66
5-min	11.29	1.88	57.24	11.37	0.10	1.64	54.60	**5.27**	11.40	1.95	-0.10	57.10	0.28	11.25	0.10	1.53	0.15	54.41	5.65

Raingauge N12 at Hong Shui House, Shui Pin Wai Estate

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	$-\log L_i$	a	b	σ	$-\log L_i$	D	μ	σ	ξ	$-\log L_i$	D	a	b	σ	ξ	$-\log L_i$	D
31-day	543.57	211.48	179.64	546.10	6.25	204.99	178.98	1.33	550.18	213.53	-0.06	179.53	0.22	553.22	6.42	208.24	-0.06	178.87	1.54
15-day	365.35	130.06	167.34	368.77	4.87	124.10	166.10	2.47	368.06	131.31	-0.04	167.30	0.08	372.76	5.18	126.28	-0.06	166.03	2.61
7-day	285.65	98.80	160.33	287.80	3.28	95.23	159.32	2.02	287.35	99.69	-0.03	160.30	0.05	289.82	3.39	96.31	-0.04	159.29	2.09
5-day	259.77	91.60	158.92	261.70	2.96	88.16	157.96	1.93	257.37	89.94	0.05	158.87	0.10	258.60	2.85	85.85	0.07	157.87	2.10
4-day	250.18	89.32	158.57	252.21	2.97	85.60	157.53	2.08	245.69	85.95	0.10	158.38	0.38	246.62	2.80	81.08	0.12	157.25	2.65
3-day	236.32	77.21	154.40	237.90	2.50	73.92	153.40	1.99	234.62	76.13	0.04	154.35	0.09	235.16	2.46	71.98	0.07	153.29	2.22
2-day	213.27	72.64	152.63	214.74	2.34	69.69	151.64	1.98	212.56	72.19	0.02	152.62	0.02	213.43	2.31	68.81	0.04	151.61	2.04
24-hr	175.66	69.92	151.49	176.97	2.13	67.47	150.60	1.77	175.64	69.91	0.00	151.49	0.00	176.47	2.12	67.11	0.01	150.60	1.78
18-hr	160.52	65.31	150.10	161.60	1.80	63.34	149.34	1.52	157.80	63.22	0.08	150.00	0.21	158.61	1.68	61.03	0.09	149.21	1.79
12-hr	140.44	59.51	147.64	141.51	1.85	57.17	146.74	1.80	138.47	58.19	0.06	147.54	0.19	139.10	1.80	55.51	0.08	146.57	2.13
8-hr	120.35	49.30	142.96	121.20	1.45	47.78	142.17	1.57	117.74	47.30	0.10	142.75	0.41	118.49	1.36	45.69	0.10	141.94	2.04
6-hr	110.84	44.78	140.56	111.51	1.25	43.52	139.88	1.37	108.12	42.64	0.11	140.28	0.56	108.53	1.17	41.15	0.13	139.54	2.05
4-hr	95.65	36.56	134.86	96.37	1.20	35.10	133.91	1.90	94.86	35.94	0.04	134.83	0.05	95.11	1.17	34.11	0.07	133.84	2.03
2-hr	72.67	23.95	122.62	73.18	1.00	22.51	121.34	2.57	75.12	24.92	-0.19	121.90	1.45	75.23	0.93	23.60	-0.17	120.87	3.50
1-hr	55.58	13.78	107.45	55.87	0.69	12.52	105.68	3.55	57.96	14.18	-0.32	105.17	**4.57**	57.72	0.47	13.32	-0.26	104.43	**6.04**
30-min	40.20	8.22	95.29	40.43	0.42	7.46	93.45	3.69	41.04	8.74	-0.19	94.88	0.83	40.47	0.41	7.49	-0.01	93.44	3.70
15-min	25.71	6.42	88.61	26.04	0.44	5.29	84.99	**7.25**	25.96	6.52	-0.07	88.45	0.33	25.67	0.48	5.00	0.12	84.59	**8.04**
10-min	19.33	4.38	79.11	19.50	0.25	3.83	76.58	**5.06**	19.33	4.38	0.00	79.11	0.00	19.27	0.27	3.66	0.11	76.16	5.89
5-min	11.00	2.49	65.75	11.07	0.11	2.27	64.15	3.20	10.80	2.32	0.15	65.04	1.41	10.77	0.11	1.98	0.24	62.36	**6.77**

Raingauge N13 at Yuen Ng Fan, High Island Reservoir

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	712.22	205.92	179.99	712.87	2.30	205.39	179.88	0.22	705.34	200.98	0.06	179.91	0.16	706.41	2.00	200.66	0.06	179.82	0.35
15-day	505.74	169.34	174.33	505.50	-1.20	168.14	174.28	0.09	513.99	175.35	-0.09	174.24	0.18	512.90	-0.42	174.20	-0.08	174.24	0.19
7-day	370.12	134.97	168.12	370.00	-1.58	133.09	167.99	0.27	387.30	146.60	-0.23	167.62	1.01	387.83	0.27	147.16	-0.24	167.61	1.01
5-day	333.26	118.04	164.77	332.96	-1.33	116.02	164.64	0.26	339.66	121.92	-0.10	164.62	0.30	337.50	-0.78	119.61	-0.07	164.59	0.35
4-day	320.53	110.30	162.95	320.34	-0.74	109.37	162.90	0.10	329.51	116.07	-0.15	162.68	0.54	330.50	0.45	117.06	-0.16	162.67	0.56
3-day	295.59	99.18	160.27	295.46	-0.48	98.68	160.24	0.05	301.56	102.95	-0.11	160.10	0.33	302.02	0.22	103.38	-0.12	160.10	0.34
2-day	261.36	82.32	154.99	261.34	-0.89	81.39	154.87	0.23	270.36	87.06	-0.20	154.40	1.17	270.39	0.02	87.09	-0.20	154.40	1.17
24-hr	207.18	63.57	148.59	207.24	0.32	63.58	148.56	0.05	210.29	65.34	-0.09	148.44	0.30	210.56	0.48	65.47	-0.10	148.39	0.39
18-hr	183.36	59.08	146.46	183.42	-0.33	59.13	146.43	0.06	186.78	60.76	-0.11	146.20	0.51	187.09	-0.54	60.87	-0.11	146.14	0.64
12-hr	161.96	52.41	142.93	162.35	-0.99	51.88	142.60	0.65	167.02	54.25	-0.18	142.23	1.41	167.45	-1.21	53.62	-0.18	141.85	2.16
8-hr	144.49	43.44	137.54	145.08	-1.05	42.92	137.02	1.05	153.19	46.03	-0.37	135.20	**4.68**	154.13	-1.58	44.92	-0.39	134.24	**6.61**
6-hr	130.60	40.66	136.05	131.25	-1.16	39.80	135.36	1.38	137.20	42.99	-0.30	134.52	3.07	137.76	-1.39	41.73	-0.30	133.66	4.78
4-hr	115.63	36.32	133.05	116.34	-1.13	35.53	132.26	1.58	120.41	37.65	-0.24	131.70	2.70	124.02	-2.08	38.18	-0.40	129.90	**6.31**
2-hr	88.79	26.11	125.36	89.21	-0.76	25.65	124.73	1.26	90.37	26.94	-0.11	125.14	0.44	91.44	-0.98	26.80	-0.16	124.31	2.09
1-hr	64.25	18.96	117.05	64.64	-0.51	19.03	116.57	0.96	66.24	20.22	-0.19	116.62	0.86	67.82	-1.00	20.42	-0.30	115.10	3.91
30-min	42.29	10.74	102.03	42.37	-0.14	10.83	101.93	0.19	43.57	11.44	-0.22	101.36	1.33	44.91	-0.60	12.08	-0.42	99.81	4.42
15-min	26.70	7.33	91.34	26.72	-0.04	7.36	91.32	0.03	27.88	7.65	-0.30	89.55	3.57	28.23	-0.25	7.72	-0.37	88.65	5.38
10-min	20.71	5.61	84.33	20.70	0.00	5.61	84.33	0.00	21.47	5.77	-0.25	82.88	2.89	21.93	-0.23	6.04	-0.40	81.94	4.77
5-min	12.03	3.21	69.76	12.03	0.03	3.18	69.69	0.14	12.59	3.35	-0.33	67.83	**3.86**	12.94	-0.14	3.64	-0.53	66.97	5.59

Raingauge N14 at Wireless Station, Tai Mo Shan, Tai Mo Shan Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	$-\log L_i$	a	b	σ	$-\log L_i$	D	μ	σ	ξ	$-\log L_i$	D	a	b	σ	ξ	$-\log L_i$	D
31-day	905.87	361.00	195.63	909.34	7.26	357.07	195.28	0.69	848.51	302.59	0.32	194.27	2.72	856.71	4.08	305.01	0.29	194.06	3.14
15-day	640.33	249.75	185.45	644.39	6.82	244.20	184.79	1.31	616.80	228.78	0.18	185.01	0.88	623.64	5.59	226.27	0.16	184.40	2.08
7-day	458.86	200.92	179.95	463.00	6.55	191.81	178.96	1.98	437.78	181.65	0.20	179.32	1.26	436.26	5.74	166.07	0.27	177.96	3.97
5-day	419.52	189.02	178.78	423.00	6.06	180.17	177.84	1.88	392.47	161.82	0.29	177.51	2.54	385.01	5.09	138.96	0.44	175.69	**6.19**
4-day	398.68	184.38	178.08	401.12	5.15	177.31	177.36	1.43	374.41	160.71	0.26	176.96	2.24	368.46	4.79	142.65	0.38	175.50	5.16
3-day	372.73	175.66	176.81	373.74	3.36	172.21	176.46	0.70	349.34	152.78	0.26	175.69	2.24	342.83	3.53	139.96	0.37	174.84	3.94
2-day	328.56	148.38	172.57	328.82	1.92	146.86	172.42	0.31	309.87	130.23	0.25	171.32	2.51	306.95	2.34	124.56	0.30	170.87	3.41
24-hr	259.94	109.66	164.71	260.00	0.45	109.68	164.70	0.03	242.74	92.29	0.31	163.22	2.97	242.89	0.31	92.32	0.31	163.21	3.01
18-hr	234.52	97.90	161.79	234.74	1.15	97.21	161.66	0.25	218.46	81.42	0.32	160.15	3.27	218.94	0.87	80.92	0.32	159.97	3.64
12-hr	196.11	79.25	156.42	196.40	1.25	78.13	156.20	0.45	184.33	67.33	0.29	154.65	3.54	183.60	1.29	64.78	0.32	154.13	4.59
8-hr	164.57	68.95	151.81	165.08	1.64	66.71	151.29	1.04	160.00	65.29	0.12	151.48	0.67	158.27	1.80	60.61	0.19	150.60	2.43
6-hr	147.29	59.84	147.87	147.70	1.46	57.71	147.32	1.11	144.65	57.84	0.08	147.74	0.27	142.21	1.67	52.84	0.18	146.84	2.06
4-hr	124.76	49.90	142.90	124.86	0.69	49.30	142.72	0.35	123.77	49.20	0.04	142.87	0.05	123.13	0.75	47.95	0.06	142.65	0.49
2-hr	96.51	36.18	134.54	96.61	0.64	35.51	134.26	0.56	95.99	35.79	0.03	134.53	0.02	95.06	0.71	34.23	0.08	134.18	0.72
1-hr	69.44	24.62	124.63	69.90	0.89	23.10	123.47	2.32	68.75	24.23	0.05	124.53	0.20	68.43	0.98	22.00	0.11	123.06	3.14
30-min	48.23	16.77	115.50	48.41	0.48	16.10	114.82	1.36	46.92	15.75	0.14	114.69	1.61	46.64	0.59	14.51	0.20	113.49	4.00
15-min	30.78	10.45	103.68	30.83	0.23	10.15	103.29	0.76	29.82	9.65	0.17	102.53	2.30	29.47	0.34	8.82	0.25	101.43	4.50
10-min	22.67	7.51	94.80	22.69	0.14	7.34	94.54	0.52	22.05	7.01	0.16	94.01	1.58	21.61	0.25	6.31	0.28	93.03	3.53
5-min	12.87	4.06	79.30	12.87	0.05	4.01	79.18	0.24	12.36	3.57	0.24	77.75	3.10	12.14	0.10	3.24	0.36	76.89	4.82

Raingauge N15 at Sung Tsun Secondary School, Yau Ma Po, Po Tung Road

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	712.93	232.40	183.15	714.07	3.60	231.13	182.96	0.38	705.10	226.30	0.06	183.09	0.11	707.09	3.32	225.73	0.06	182.92	0.46
15-day	495.66	180.79	175.84	497.05	3.20	179.88	175.58	0.53	516.82	196.15	-0.21	175.45	0.79	523.63	5.46	198.32	-0.26	174.93	1.83
7-day	367.16	132.64	168.14	367.92	1.45	133.18	168.03	0.22	373.42	137.61	-0.09	168.08	0.12	380.80	3.06	143.11	-0.17	167.79	0.70
5-day	336.52	117.90	165.46	337.47	1.64	118.34	165.28	0.36	332.43	114.52	0.06	165.42	0.08	338.52	1.78	119.17	-0.02	165.28	0.36
4-day	314.05	109.31	164.04	314.56	1.11	109.61	163.94	0.19	301.67	97.62	0.22	163.52	1.03	299.79	-0.42	95.97	0.26	163.51	1.06
3-day	289.82	104.21	162.82	290.24	1.03	104.36	162.73	0.18	276.69	91.65	0.25	162.24	1.15	275.85	-0.21	90.92	0.27	162.24	1.16
2-day	253.00	79.44	155.44	253.05	0.27	79.50	155.43	0.02	246.89	74.09	0.15	155.20	0.47	246.80	-0.05	74.03	0.15	155.20	0.47
24-hr	198.09	59.61	147.88	198.15	0.48	59.41	147.82	0.11	195.69	58.21	0.07	147.65	0.45	195.48	0.57	57.74	0.08	147.57	0.62
18-hr	177.53	53.85	144.78	177.55	0.50	53.53	144.71	0.15	176.11	53.18	0.05	144.68	0.20	176.00	0.55	52.75	0.05	144.58	0.40
12-hr	155.69	41.33	136.93	155.67	-0.07	41.32	136.93	0.01	156.88	41.67	-0.05	136.82	0.23	156.88	-0.06	41.66	-0.05	136.82	0.23
8-hr	137.35	33.95	131.73	137.35	-0.08	33.90	131.73	0.01	139.62	34.74	-0.12	131.32	0.84	139.61	0.02	34.71	-0.12	131.32	0.84
6-hr	125.40	30.59	129.03	125.46	0.20	30.63	128.99	0.08	127.77	31.48	-0.14	128.53	1.00	127.89	0.33	31.46	-0.14	128.44	1.18
4-hr	109.11	28.42	126.51	109.11	0.03	28.43	126.50	0.00	111.32	28.63	-0.14	125.72	1.58	111.36	0.13	28.64	-0.14	125.70	1.61
2-hr	82.50	19.89	117.43	82.71	0.48	19.49	116.89	1.08	85.42	20.81	-0.27	115.91	3.05	85.52	0.54	20.35	-0.26	115.41	4.05
1-hr	59.39	11.65	104.12	59.55	0.38	11.14	103.23	1.77	61.27	12.79	-0.30	103.29	1.65	60.66	0.33	11.82	-0.18	102.85	2.53
30-min	40.49	7.55	93.50	40.56	0.20	7.33	92.92	1.16	40.81	7.78	-0.08	93.43	0.15	40.63	0.20	7.38	-0.02	92.92	1.16
15-min	26.83	4.65	81.09	26.88	0.12	4.55	80.62	0.93	26.87	4.68	-0.02	81.08	0.01	26.86	0.12	4.54	0.00	80.62	0.93
10-min	20.02	3.76	75.29	20.08	0.14	3.49	74.14	2.30	20.13	3.83	-0.05	75.24	0.10	19.86	0.16	3.31	0.12	73.99	2.59
5-min	11.63	2.03	59.00	11.65	0.08	1.83	57.53	2.93	11.66	2.04	-0.02	58.98	0.04	11.43	0.11	1.62	0.23	56.96	4.07

Raingauge N16 at Tak Chi House, Hau Tak Estate

	Gumbel			Gumbel (Non-stationary)					GEV (Stationary)					GEV (Non-stationary)					
	μ	σ	-logL$_i$	a	b	σ	-logL$_i$	D	μ	σ	ξ	-logL$_i$	D	a	b	σ	ξ	-logL$_i$	D
31-day	672.78	231.93	176.41	682.98	10.63	216.80	174.61	3.60	653.76	215.33	0.16	176.11	0.60	664.98	8.85	200.83	0.16	174.36	4.11
15-day	467.76	183.96	170.10	471.49	5.35	179.77	169.34	1.52	466.95	183.36	0.01	170.09	0.00	482.38	6.58	189.10	-0.11	169.29	1.62
7-day	352.92	138.91	162.52	357.61	5.10	133.80	161.25	2.54	368.77	150.51	-0.21	162.18	0.69	382.90	8.77	150.68	-0.33	160.28	4.49
5-day	326.22	133.18	161.40	331.13	5.30	126.25	159.87	3.06	339.61	142.31	-0.18	161.07	0.66	347.98	7.41	137.56	-0.24	159.26	4.29
4-day	310.41	127.79	160.36	314.24	4.56	122.72	159.15	2.42	321.47	135.11	-0.16	160.08	0.56	329.17	6.28	132.08	-0.22	158.63	3.47
3-day	289.16	116.59	158.12	291.83	3.58	113.51	157.25	1.75	298.83	123.15	-0.15	157.88	0.49	306.67	5.37	123.35	-0.23	156.72	2.80
2-day	251.00	93.30	152.28	252.62	2.35	92.18	151.71	1.15	268.45	104.80	-0.33	151.28	2.00	295.71	9.39	122.55	-0.85	147.57	**9.41**
24-hr	196.38	64.96	144.07	197.40	1.62	64.22	143.54	1.06	195.87	64.57	0.01	144.07	0.00	216.62	5.65	83.92	-0.52	143.08	1.99
18-hr	170.27	62.19	142.10	171.21	1.63	60.78	141.45	1.29	175.64	64.98	-0.16	141.70	0.80	180.15	2.82	66.38	-0.26	140.73	2.74
12-hr	148.45	54.42	138.62	149.20	1.40	53.20	138.00	1.23	154.72	57.60	-0.21	137.99	1.26	156.86	2.06	57.34	-0.26	137.16	2.91
8-hr	131.20	42.02	131.73	131.71	0.95	41.40	131.25	0.95	139.61	45.92	-0.37	130.15	3.16	140.66	1.65	45.02	-0.40	129.16	5.13
6-hr	120.23	37.44	128.81	120.59	0.73	37.08	128.46	0.69	126.85	40.08	-0.33	127.26	3.10	130.17	1.85	41.51	-0.48	125.97	5.68
4-hr	106.60	32.22	125.43	106.66	0.33	32.07	125.33	0.18	111.42	34.71	-0.27	124.48	1.90	116.34	1.61	39.75	-0.55	123.95	2.96
2-hr	79.22	24.37	118.97	79.22	0.03	24.36	118.97	0.00	80.75	25.33	-0.12	118.79	0.36	80.76	0.02	25.33	-0.12	118.79	0.36
1-hr	58.57	17.27	110.13	58.58	0.03	17.28	110.13	0.00	59.23	17.58	-0.07	110.01	0.25	59.24	0.04	17.59	-0.07	110.00	0.26
30-min	41.06	10.45	97.44	41.11	0.20	10.28	97.13	0.63	42.20	11.06	-0.20	96.88	1.12	42.15	0.20	10.88	-0.18	96.66	1.56
15-min	26.14	5.67	82.24	26.32	0.22	5.37	80.80	2.89	26.53	5.88	-0.13	81.94	0.61	26.65	0.25	5.51	-0.11	80.52	3.45
10-min	19.25	4.57	76.47	19.49	0.25	3.98	73.51	**5.92**	19.60	4.69	-0.13	75.99	0.97	19.62	0.26	4.03	-0.06	73.42	**6.10**
5-min	11.18	2.47	61.41	11.34	0.15	2.13	57.97	**6.86**	11.52	2.67	-0.25	60.64	1.53	11.43	0.16	2.18	-0.08	57.85	**7.11**

Appendix C

Extreme Rainfall Values at GEO Raingauges

Raingauge H01

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. H01

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	569.5	205.5	644.8	877.7	1031.9	1179.8	1371.2	1514.7	1657.6	1846.2	1988.7
15-day	411.8	154.4	468.4	643.5	759.4	870.5	1014.4	1122.2	1229.7	1371.4	1478.5
7-day	305.9	123.4	351.2	491.0	583.6	672.4	787.4	873.6	959.4	1072.7	1158.2
5-day	283.1	115.2	325.3	456.0	542.4	625.4	732.8	813.3	893.4	999.2	1079.1
4-day	273.0	114.7	315.0	445.1	531.2	613.8	720.7	800.8	880.6	985.9	1065.5
3-day	258.2	105.3	296.8	416.2	495.2	571.1	669.2	742.8	816.1	912.7	985.8
2-day	225.2	87.5	257.3	356.4	422.1	485.1	566.7	627.8	688.6	769.0	829.7
24-hr	181.4	67.9	206.3	283.3	334.3	383.2	446.5	493.9	541.2	603.6	650.7
18-hr	159.3	62.4	182.2	252.9	299.7	344.6	402.8	446.3	489.8	547.0	590.3
12-hr	141.1	55.7	161.5	224.6	266.4	306.5	358.4	397.3	436.0	487.2	525.8
8-hr	125.0	46.2	142.0	194.3	228.9	262.1	305.1	337.4	369.5	411.8	443.9
6-hr	115.3	43.2	131.2	180.2	212.6	243.8	284.1	314.3	344.4	384.1	414.1
4-hr	104.4	40.0	119.1	164.4	194.4	223.2	260.4	288.4	316.2	352.9	380.6
2-hr	80.5	27.9	90.7	122.4	143.3	163.4	189.5	209.0	228.4	254.0	273.4
1-hr	60.7	18.4	67.5	88.4	102.2	115.5	132.7	145.6	158.4	175.3	188.1
30-min	42.8	10.3	46.6	58.2	65.9	73.3	82.9	90.1	97.2	106.6	113.8
15-min	28.1	5.9	30.3	36.9	41.3	45.5	51.0	55.0	59.1	64.5	68.5
10-min	21.0	4.6	22.6	27.9	31.3	34.6	38.9	42.1	45.3	49.5	52.7
5-min	12.1	2.8	13.1	16.2	18.3	20.3	22.9	24.9	26.8	29.3	31.3

Raingauge H02

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. H02

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	628.0	211.5	705.5	945.2	1103.9	1256.1	1453.2	1600.8	1747.9	1942.0	2088.7
15-day	457.4	160.2	516.1	697.6	817.8	933.1	1082.3	1194.1	1305.6	1452.5	1563.6
7-day	342.1	121.8	386.8	524.8	616.2	703.9	817.4	902.4	987.2	1099.0	1183.4
5-day	316.9	114.2	358.7	488.2	574.0	656.2	762.6	842.4	921.9	1026.7	1106.0
4-day	306.1	115.7	348.5	479.7	566.5	649.8	757.6	838.4	918.9	1025.1	1105.3
3-day	287.0	108.3	326.7	449.5	530.8	608.8	709.7	785.4	860.7	960.2	1035.3
2-day	248.7	90.4	281.8	384.2	452.0	517.1	601.3	664.4	727.3	810.2	872.9
24-hr	198.2	68.9	223.4	301.5	353.3	402.9	467.1	515.3	563.2	626.5	674.3
18-hr	176.0	62.7	199.0	270.1	317.2	362.4	420.8	464.7	508.3	565.9	609.4
12-hr	152.1	54.9	172.3	234.5	275.7	315.2	366.3	404.6	442.8	493.2	531.3
8-hr	133.7	45.2	150.3	201.6	235.5	268.0	310.2	341.7	373.2	414.7	446.0
6-hr	121.2	39.9	135.8	181.0	210.9	239.6	276.7	304.5	332.3	368.9	396.5
4-hr	105.8	38.2	119.8	163.1	191.7	219.2	254.8	281.4	308.0	343.0	369.5
2-hr	79.7	27.4	89.8	120.9	141.5	161.2	186.8	205.9	225.0	250.2	269.3
1-hr	60.7	16.2	66.6	84.9	97.1	108.7	123.8	135.1	146.4	161.2	172.4
30-min	41.6	9.4	45.1	55.7	62.8	69.6	78.4	85.0	91.5	100.2	106.7
15-min	27.1	6.0	29.3	36.1	40.6	45.0	50.6	54.8	58.9	64.5	68.6
10-min	20.6	4.4	22.2	27.2	30.5	33.7	37.8	40.9	44.0	48.0	51.1
5-min	11.8	2.6	12.8	15.7	17.7	19.6	22.0	23.8	25.6	28.0	29.8

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Raingauge H03

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. H03

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	587.4	189.2	656.8	871.3	1013.3	1149.5	1325.8	1457.9	1589.5	1763.2	1894.5
15-day	429.5	144.1	482.4	645.7	753.9	857.6	991.9	1092.6	1192.9	1325.1	1425.1
7-day	316.3	111.3	357.1	483.3	566.9	647.0	750.8	828.5	906.0	1008.2	1085.4
5-day	292.6	99.7	329.1	442.1	516.9	588.6	681.5	751.1	820.4	911.9	981.0
4-day	283.3	96.2	318.6	427.6	499.8	569.1	658.7	725.9	792.9	881.2	947.9
3-day	262.5	94.1	297.0	403.7	474.3	542.1	629.8	695.5	761.0	847.3	912.6
2-day	226.5	77.9	255.1	343.3	401.8	457.9	530.4	584.8	639.0	710.5	764.5
24-hr	181.2	57.4	202.2	267.2	310.3	351.6	405.1	445.1	485.0	537.7	577.5
18-hr	159.1	51.4	177.9	236.1	274.7	311.7	359.5	395.4	431.1	478.2	513.9
12-hr	141.0	43.2	156.9	205.8	238.2	269.3	309.6	339.8	369.8	409.5	439.4
8-hr	123.4	37.9	137.3	180.3	208.7	235.9	271.2	297.7	324.0	358.8	385.0
6-hr	113.3	35.6	126.4	166.7	193.4	219.0	252.2	277.0	301.8	334.4	359.1
4-hr	99.1	34.2	111.7	150.4	176.0	200.6	232.4	256.2	280.0	311.4	335.0
2-hr	78.9	28.2	89.2	121.1	142.2	162.5	188.7	208.4	228.0	253.8	273.4
1-hr	59.6	20.6	67.1	90.4	105.9	120.6	139.8	154.2	168.5	187.3	201.6
30-min	40.9	12.0	45.3	59.0	68.0	76.7	87.9	96.3	104.7	115.8	124.1
15-min	26.7	6.6	29.1	36.6	41.5	46.2	52.3	56.9	61.5	67.5	72.0
10-min	19.8	4.6	21.5	26.7	30.1	33.4	37.7	40.9	44.1	48.3	51.5
5-min	11.2	2.6	12.2	15.2	17.2	19.1	21.5	23.4	25.2	27.6	29.5

Raingauge H04

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. H04

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	665.0	221.5	746.2	997.2	1163.5	1322.9	1529.4	1684.0	1838.1	2041.5	2195.1
15-day	474.4	172.3	537.5	732.8	862.2	986.2	1146.8	1267.1	1387.0	1545.2	1664.7
7-day	362.4	133.8	411.4	563.0	663.4	759.7	884.4	977.8	1070.8	1193.6	1286.4
5-day	335.4	124.7	381.1	522.5	616.1	705.9	822.2	909.3	996.1	1110.6	1197.1
4-day	322.7	126.2	368.9	512.0	606.7	697.6	815.1	903.3	991.1	1106.9	1194.5
3-day	306.2	115.0	348.4	478.7	565.0	647.8	754.9	835.2	915.2	1020.7	1100.5
2-day	265.9	95.5	300.9	409.2	480.9	549.7	638.7	705.4	771.9	859.6	925.9
24-hr	213.9	71.4	240.1	321.0	374.6	426.0	492.6	542.4	592.1	657.7	707.2
18-hr	190.1	63.1	213.2	284.7	332.0	377.4	436.1	480.2	524.1	581.9	625.7
12-hr	165.3	54.2	185.2	246.7	287.4	326.4	377.0	414.8	452.6	502.4	540.0
8-hr	143.0	44.9	159.5	210.3	244.0	276.3	318.1	349.5	380.7	421.9	453.0
6-hr	127.9	40.1	142.6	188.0	218.1	247.0	284.4	312.4	340.3	377.1	405.0
4-hr	112.2	39.2	126.5	171.0	200.5	228.7	265.3	292.7	320.0	356.0	383.2
2-hr	86.2	26.8	96.0	126.4	146.6	165.9	190.9	209.6	228.3	252.9	271.5
1-hr	64.7	15.7	70.4	88.2	99.9	111.2	125.8	136.7	147.6	162.0	172.9
30-min	43.1	9.3	46.5	57.0	64.0	70.6	79.3	85.7	92.2	100.7	107.1
15-min	28.0	5.5	30.0	36.3	40.5	44.5	49.6	53.5	57.3	62.4	66.3
10-min	20.7	4.1	22.2	26.9	30.0	33.0	36.9	39.7	42.6	46.4	49.3
5-min	12.1	2.5	13.0	15.8	17.7	19.5	21.9	23.6	25.4	27.7	29.4

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Raingauge H05

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. H05

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	630.1	206.8	705.9	940.3	1095.4	1244.2	1436.9	1581.2	1725.1	1914.8	2058.2
15-day	452.8	154.0	509.3	683.9	799.4	910.3	1053.8	1161.4	1268.5	1409.9	1516.7
7-day	330.7	118.4	374.1	508.3	597.2	682.5	792.8	875.5	957.9	1066.6	1148.8
5-day	304.7	109.4	344.8	468.7	550.8	629.6	731.5	807.8	883.9	984.3	1060.2
4-day	292.3	107.3	331.6	453.2	533.8	611.0	711.0	785.9	860.5	959.0	1033.5
3-day	274.9	100.5	311.7	425.7	501.1	573.4	667.1	737.2	807.2	899.4	969.1
2-day	238.1	83.0	268.5	362.5	424.8	484.6	561.9	619.8	677.5	753.7	811.3
24-hr	193.0	60.9	215.3	284.3	330.0	373.8	430.5	473.0	515.3	571.2	613.4
18-hr	168.0	51.8	186.9	245.6	284.4	321.7	369.9	406.1	442.1	489.6	525.5
12-hr	145.8	45.3	162.4	213.7	247.7	280.2	322.4	354.0	385.5	427.0	458.4
8-hr	130.4	42.2	145.9	193.7	225.4	255.7	295.0	324.5	353.8	392.5	421.8
6-hr	120.4	38.0	134.3	177.3	205.8	233.1	268.5	295.0	321.4	356.2	382.6
4-hr	106.5	35.0	119.3	159.0	185.3	210.6	243.2	267.7	292.1	324.2	348.5
2-hr	83.1	25.3	92.4	121.1	140.0	158.2	181.8	199.4	217.0	240.2	257.8
1-hr	62.3	18.1	69.0	89.5	103.1	116.2	133.1	145.7	158.3	175.0	187.6
30-min	43.1	10.5	46.9	58.8	66.7	74.3	84.1	91.5	98.8	108.5	115.8
15-min	27.8	5.0	29.6	35.2	38.9	42.5	47.1	50.6	54.0	58.6	62.0
10-min	20.8	3.6	22.2	26.3	29.0	31.6	34.9	37.5	40.0	43.3	45.8
5-min	11.7	2.0	12.5	14.7	16.2	17.7	19.5	20.9	22.3	24.1	25.5

Raingauge H06

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. H06

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	677.3	230.7	761.9	1023.4	1196.6	1362.7	1577.7	1738.8	1899.3	2111.1	2271.1
15-day	474.9	167.0	536.1	725.4	850.7	970.8	1126.4	1243.0	1359.1	1512.4	1628.2
7-day	356.5	133.1	405.3	556.2	656.1	752.0	876.0	969.0	1061.6	1183.8	1276.2
5-day	324.1	121.6	368.7	506.6	597.8	685.4	798.7	883.6	968.2	1079.9	1164.2
4-day	309.7	121.7	354.3	492.2	583.6	671.1	784.5	869.5	954.1	1065.8	1150.2
3-day	294.3	113.5	335.9	464.6	549.8	631.5	737.3	816.6	895.6	999.8	1078.5
2-day	252.8	94.5	287.4	394.5	465.5	533.5	621.6	687.6	753.3	840.1	905.7
24-hr	204.7	73.5	231.7	314.9	370.1	423.0	491.4	542.8	593.9	661.3	712.3
18-hr	177.7	63.0	200.8	272.2	319.5	364.9	423.6	467.6	511.4	569.3	613.0
12-hr	154.6	51.8	173.6	232.3	271.2	308.4	356.7	392.9	428.9	476.4	512.4
8-hr	133.5	45.0	150.0	200.9	234.7	267.0	309.0	340.4	371.6	412.9	444.1
6-hr	122.6	40.7	137.5	183.7	214.3	243.6	281.5	310.0	338.3	375.7	403.9
4-hr	109.0	35.8	122.2	162.8	189.7	215.5	248.9	273.9	298.8	331.7	356.6
2-hr	83.4	23.9	92.2	119.3	137.2	154.4	176.7	193.4	210.0	232.0	248.6
1-hr	58.6	19.7	65.8	88.1	102.8	117.0	135.3	149.0	162.7	180.8	194.4
30-min	41.6	10.6	45.5	57.6	65.5	73.2	83.0	90.5	97.8	107.6	114.9
15-min	26.2	6.2	28.4	35.5	40.2	44.6	50.4	54.8	59.1	64.8	69.1
10-min	19.5	5.0	21.4	27.1	30.8	34.4	39.1	42.6	46.1	50.7	54.2
5-min	10.8	2.8	11.9	15.1	17.2	19.2	21.9	23.8	25.8	28.4	30.4

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Raingauge H07

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. H07

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	677.6	220.1	758.2	1007.7	1172.8	1331.2	1536.3	1689.9	1843.0	2045.0	2197.7
15-day	471.0	159.3	529.4	709.9	829.4	944.1	1092.5	1203.7	1314.5	1460.6	1571.1
7-day	353.8	125.4	399.8	541.9	636.0	726.3	843.1	930.7	1017.9	1133.0	1220.0
5-day	323.6	113.0	365.0	493.1	577.8	659.1	764.4	843.3	921.8	1025.5	1103.9
4-day	308.6	114.2	350.4	479.9	565.6	647.8	754.3	834.0	913.5	1018.3	1097.5
3-day	290.4	106.3	329.4	449.9	529.6	606.1	705.1	779.4	853.3	950.8	1024.6
2-day	251.6	91.7	285.2	389.1	457.9	523.9	609.3	673.3	737.1	821.2	884.8
24-hr	200.3	69.8	225.9	304.9	357.3	407.5	472.5	521.2	569.7	633.7	682.1
18-hr	176.7	59.5	198.5	265.9	310.6	353.4	408.8	450.3	491.7	546.3	587.5
12-hr	153.6	51.2	172.3	230.4	268.8	305.7	353.4	389.2	424.8	471.9	507.4
8-hr	132.5	44.8	148.9	199.7	233.2	265.5	307.2	338.4	369.6	410.7	441.7
6-hr	120.2	38.1	134.2	177.4	205.9	233.4	268.8	295.4	321.9	356.9	383.3
4-hr	105.3	34.6	118.0	157.2	183.1	208.0	240.2	264.4	288.4	320.2	344.2
2-hr	80.6	22.3	88.7	113.9	130.6	146.7	167.4	182.9	198.4	218.8	234.3
1-hr	59.4	16.7	65.6	84.5	97.0	109.0	124.6	136.3	147.9	163.2	174.8
30-min	41.9	9.9	45.5	56.7	64.1	71.2	80.4	87.3	94.2	103.3	110.2
15-min	27.7	5.6	29.7	36.0	40.2	44.2	49.4	53.3	57.2	62.3	66.1
10-min	20.5	3.8	21.9	26.2	29.1	31.9	35.4	38.1	40.8	44.3	46.9
5-min	11.8	1.8	12.4	14.5	15.8	17.1	18.8	20.1	21.3	23.0	24.2

Raingauge H08

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. H08

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	670.0	228.8	753.9	1013.2	1184.9	1349.6	1562.8	1722.6	1881.8	2091.8	2250.5
15-day	470.2	171.6	533.1	727.5	856.3	979.8	1139.7	1259.5	1378.9	1536.3	1655.4
7-day	349.3	128.2	396.3	541.6	637.8	730.0	849.5	939.0	1028.2	1145.8	1234.7
5-day	321.6	120.3	365.7	502.1	592.3	678.9	791.0	875.0	958.7	1069.1	1152.6
4-day	307.1	122.3	352.0	490.6	582.4	670.5	784.5	869.9	955.0	1067.3	1152.1
3-day	292.4	115.8	334.8	466.0	552.9	636.2	744.0	824.8	905.4	1011.6	1091.9
2-day	254.2	94.1	288.7	395.3	465.9	533.7	621.3	687.0	752.5	838.8	904.1
24-hr	205.7	70.8	231.7	311.9	365.0	416.0	481.9	531.3	580.6	645.5	694.6
18-hr	180.3	62.8	203.3	274.5	321.7	366.9	425.5	469.3	513.0	570.7	614.3
12-hr	156.8	52.6	176.1	235.7	275.2	313.0	362.0	398.7	435.3	483.6	520.0
8-hr	134.4	46.7	151.5	204.4	239.4	273.0	316.4	349.0	381.5	424.3	456.7
6-hr	122.2	41.7	137.5	184.7	216.0	246.0	284.9	314.0	343.0	381.3	410.2
4-hr	105.5	36.5	118.9	160.3	187.7	213.9	247.9	273.4	298.8	332.3	357.6
2-hr	79.7	22.4	87.9	113.3	130.0	146.1	167.0	182.6	198.2	218.7	234.2
1-hr	59.6	17.1	65.9	85.3	98.2	110.5	126.4	138.4	150.3	166.0	177.9
30-min	42.5	9.7	46.0	57.0	64.3	71.2	80.3	87.0	93.8	102.7	109.4
15-min	26.6	5.1	28.5	34.3	38.1	41.8	46.6	50.2	53.8	58.5	62.0
10-min	20.2	4.0	21.6	26.2	29.2	32.1	35.9	38.7	41.5	45.2	48.0
5-min	11.5	2.3	12.4	15.0	16.7	18.4	20.5	22.1	23.7	25.8	27.4

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Raingauge H09

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. H09

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	721.1	235.1	807.3	1073.8	1250.2	1419.5	1638.5	1802.7	1966.3	2182.0	2345.1
15-day	504.3	172.1	567.4	762.4	891.6	1015.4	1175.8	1295.9	1415.6	1573.6	1692.9
7-day	382.2	133.3	431.0	582.1	682.1	778.0	902.1	995.2	1087.9	1210.2	1302.6
5-day	350.9	121.3	395.3	532.8	623.8	711.1	824.2	908.8	993.2	1104.6	1188.7
4-day	337.2	117.8	380.3	513.9	602.3	687.2	797.0	879.2	961.2	1069.4	1151.1
3-day	318.9	109.0	358.9	482.4	564.2	642.7	744.3	820.4	896.3	996.3	1072.0
2-day	278.5	96.5	313.8	423.2	495.7	565.1	655.1	722.4	789.6	878.2	945.1
24-hr	216.6	74.3	243.8	328.0	383.7	437.2	506.4	558.2	609.9	678.1	729.6
18-hr	189.2	64.1	212.7	285.3	333.4	379.5	439.1	483.9	528.4	587.2	631.6
12-hr	163.0	52.3	182.1	241.4	280.6	318.2	366.9	403.4	439.7	487.7	523.9
8-hr	142.1	44.7	158.5	209.2	242.8	275.0	316.7	347.9	379.0	420.1	451.1
6-hr	131.2	39.9	145.9	191.1	221.1	249.8	287.0	314.9	342.7	379.4	407.1
4-hr	115.0	34.1	127.5	166.2	191.8	216.3	248.1	271.9	295.7	327.0	350.6
2-hr	86.7	20.6	94.3	117.6	133.1	147.9	167.1	181.5	195.9	214.8	229.1
1-hr	64.4	17.0	70.7	90.0	102.8	115.0	130.9	142.8	154.7	170.3	182.2
30-min	44.9	12.0	49.3	63.0	72.0	80.7	91.9	100.3	108.7	119.8	128.1
15-min	28.6	7.0	31.2	39.1	44.4	49.4	55.9	60.8	65.7	72.1	76.9
10-min	21.5	4.7	23.2	28.6	32.1	35.5	40.0	43.3	46.5	50.9	54.2
5-min	12.1	2.3	12.9	15.5	17.2	18.8	20.9	22.5	24.0	26.1	27.7

Raingauge H10

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. H10

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	674.1	221.4	755.3	1006.2	1172.4	1331.7	1538.0	1692.6	1846.6	2049.8	2203.4
15-day	473.8	173.4	537.4	733.9	864.0	988.8	1150.4	1271.4	1392.0	1551.2	1671.4
7-day	354.2	130.3	401.9	549.6	647.3	741.1	862.4	953.4	1044.0	1163.5	1253.9
5-day	326.0	122.3	370.9	509.5	601.2	689.3	803.2	888.6	973.7	1086.0	1170.8
4-day	315.5	121.0	359.8	497.0	587.7	674.8	787.6	872.0	956.2	1067.2	1151.2
3-day	299.9	109.6	340.1	464.3	546.6	625.5	727.6	804.1	880.4	981.0	1057.0
2-day	261.3	92.3	295.1	399.8	469.1	535.5	621.5	686.0	750.2	835.0	899.0
24-hr	212.3	68.4	237.3	314.8	366.1	415.3	479.1	526.8	574.4	637.1	684.5
18-hr	186.1	61.5	208.7	278.4	324.6	368.9	426.2	469.2	512.0	568.5	611.2
12-hr	163.0	49.9	181.3	237.8	275.2	311.1	357.6	392.4	427.1	472.9	507.5
8-hr	140.7	42.3	156.2	204.1	235.8	266.2	305.6	335.1	364.5	403.3	432.6
6-hr	129.5	38.5	143.7	187.3	216.2	244.0	279.9	306.8	333.6	369.0	395.7
4-hr	113.2	38.0	127.2	170.2	198.8	226.1	261.5	288.1	314.5	349.4	375.8
2-hr	85.8	28.9	96.4	129.1	150.8	171.6	198.6	218.7	238.8	265.4	285.4
1-hr	65.0	18.5	71.7	92.6	106.5	119.8	137.0	149.9	162.7	179.7	192.5
30-min	44.3	10.6	48.1	60.1	68.0	75.6	85.5	92.9	100.2	109.9	117.2
15-min	28.3	5.6	30.4	36.7	40.9	44.9	50.1	54.0	57.9	63.0	66.8
10-min	20.8	4.3	22.3	27.2	30.4	33.4	37.4	40.4	43.3	47.2	50.2
5-min	12.0	2.6	13.0	15.9	17.8	19.7	22.1	23.9	25.7	28.1	29.9

Raingauge H12

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. H12

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	657.3	225.1	739.8	994.9	1163.8	1325.8	1535.5	1692.7	1849.3	2055.9	2212.0
15-day	470.6	166.7	531.7	720.6	845.7	965.7	1121.0	1237.4	1353.4	1506.4	1622.0
7-day	363.6	125.4	409.6	551.7	645.8	736.1	852.9	940.4	1027.7	1142.8	1229.8
5-day	335.3	116.7	378.1	510.4	598.0	682.0	790.8	872.3	953.5	1060.6	1141.6
4-day	323.0	117.9	366.3	499.9	588.4	673.3	783.2	865.5	947.6	1055.8	1137.6
3-day	307.8	108.7	347.7	470.9	552.5	630.7	732.0	807.9	883.6	983.3	1058.8
2-day	266.7	91.4	300.2	403.8	472.4	538.1	623.3	687.0	750.6	834.5	897.8
24-hr	215.5	67.7	240.3	317.0	367.8	416.5	479.6	526.9	574.0	636.1	683.0
18-hr	189.6	60.5	211.8	280.3	325.7	369.2	425.5	467.7	509.8	565.3	607.2
12-hr	165.3	51.6	184.2	242.7	281.4	318.5	366.5	402.5	438.4	485.7	521.5
8-hr	142.2	42.0	157.6	205.3	236.8	267.0	306.2	335.5	364.8	403.3	432.5
6-hr	129.2	37.0	142.8	184.7	212.5	239.2	273.7	299.6	325.4	359.4	385.1
4-hr	112.8	35.8	125.9	166.4	193.3	219.0	252.4	277.4	302.2	335.1	359.9
2-hr	86.7	26.4	96.4	126.3	146.2	165.2	189.8	208.3	226.7	250.9	269.3
1-hr	63.8	17.2	70.1	89.6	102.6	115.0	131.0	143.0	155.0	170.9	182.8
30-min	43.1	9.7	46.7	57.7	65.0	72.1	81.1	87.9	94.7	103.7	110.4
15-min	27.4	5.6	29.4	35.8	40.0	44.0	49.2	53.1	57.0	62.2	66.1
10-min	20.2	4.1	21.7	26.3	29.3	32.2	36.0	38.8	41.6	45.4	48.2
5-min	11.5	2.3	12.4	14.9	16.6	18.3	20.4	22.0	23.5	25.6	27.2

Raingauge H14

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. H14

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	620.1	206.3	695.7	929.6	1084.4	1232.9	1425.1	1569.2	1712.7	1902.0	2045.1
15-day	446.9	157.5	504.6	683.2	801.3	914.7	1061.5	1171.4	1281.0	1425.5	1534.8
7-day	331.0	117.2	373.9	506.8	594.8	679.2	788.4	870.2	951.8	1059.4	1140.7
5-day	300.0	106.7	339.1	460.1	540.2	617.0	716.4	790.9	865.1	963.1	1037.1
4-day	289.1	100.6	325.9	440.0	515.5	587.9	681.7	752.0	822.0	914.3	984.1
3-day	269.6	90.7	302.8	405.6	473.6	538.9	623.3	686.6	749.7	832.9	895.8
2-day	231.8	74.5	259.1	343.5	399.4	453.1	522.5	574.5	626.4	694.8	746.4
24-hr	189.7	47.3	207.0	260.7	296.2	330.3	374.4	407.5	440.4	483.9	516.7
18-hr	165.6	47.0	182.8	236.1	271.3	305.2	348.9	381.8	414.4	457.6	490.2
12-hr	144.5	45.7	161.3	213.1	247.5	280.4	323.0	355.0	386.8	428.8	460.5
8-hr	130.8	41.3	145.9	192.8	223.8	253.6	292.1	320.9	349.7	387.6	416.3
6-hr	118.2	38.2	132.2	175.6	204.3	231.8	267.4	294.1	320.7	355.8	382.4
4-hr	105.5	35.5	118.6	158.8	185.5	211.1	244.2	269.0	293.8	326.4	351.0
2-hr	79.8	25.6	89.2	118.3	137.5	155.9	179.8	197.7	215.5	239.1	256.8
1-hr	59.4	16.1	65.3	83.5	95.5	107.1	122.0	133.3	144.4	159.2	170.3
30-min	41.6	8.9	44.9	55.0	61.7	68.1	76.4	82.6	88.8	97.0	103.1
15-min	26.7	5.2	28.6	34.5	38.3	42.1	46.9	50.5	54.1	58.8	62.4
10-min	20.1	3.4	21.3	25.1	27.6	30.0	33.2	35.5	37.9	40.9	43.3
5-min	10.9	1.9	11.6	13.7	15.1	16.4	18.2	19.5	20.8	22.5	23.8

Raingauge H15

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. H15

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	621.2	183.4	688.5	896.3	1033.9	1165.9	1336.8	1464.9	1592.4	1760.7	1887.9
15-day	442.1	135.1	491.6	644.7	746.1	843.4	969.3	1063.7	1157.7	1281.7	1375.4
7-day	330.4	102.3	367.9	483.9	560.7	634.4	729.7	801.2	872.4	966.3	1037.3
5-day	297.6	94.4	332.2	439.2	510.0	578.0	665.9	731.8	797.5	884.1	949.6
4-day	288.6	95.4	323.6	431.8	503.4	572.1	661.0	727.6	794.0	881.5	947.7
3-day	269.5	87.3	301.5	400.4	466.0	528.8	610.1	671.1	731.8	811.9	872.5
2-day	232.0	78.5	260.7	349.7	408.5	465.0	538.1	592.9	647.5	719.5	773.9
24-hr	188.0	53.2	207.5	267.8	307.7	346.0	395.5	432.6	469.6	518.4	555.3
18-hr	167.2	47.3	184.5	238.1	273.6	307.6	351.6	384.6	417.5	460.9	493.7
12-hr	144.8	43.4	160.7	209.9	242.5	273.7	314.2	344.5	374.7	414.6	444.7
8-hr	131.2	41.0	146.3	192.7	223.5	253.0	291.2	319.8	348.3	385.9	414.4
6-hr	120.5	38.0	134.4	177.5	206.1	233.4	268.9	295.4	321.9	356.8	383.2
4-hr	104.2	37.0	117.7	159.7	187.5	214.1	248.6	274.5	300.2	334.2	359.9
2-hr	81.0	28.2	91.3	123.3	144.5	164.8	191.1	210.8	230.4	256.3	275.9
1-hr	60.9	17.9	67.4	87.7	101.1	114.0	130.6	143.1	155.6	172.0	184.4
30-min	42.9	10.3	46.6	58.2	65.9	73.3	82.9	90.0	97.2	106.6	113.7
15-min	28.8	5.9	30.9	37.6	42.1	46.3	51.8	55.9	60.0	65.5	69.6
10-min	21.4	4.0	22.9	27.5	30.5	33.4	37.2	40.0	42.8	46.5	49.4
5-min	12.2	2.3	13.0	15.6	17.3	19.0	21.1	22.7	24.3	26.4	28.0

Raingauge H16

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. H16

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	666.8	227.2	750.0	1007.5	1178.0	1341.5	1553.2	1711.8	1869.8	2078.3	2235.9
15-day	480.8	160.9	539.8	722.2	842.9	958.7	1108.6	1221.0	1332.9	1480.5	1592.1
7-day	357.0	127.8	403.9	548.7	644.6	736.5	855.6	944.8	1033.7	1151.0	1239.6
5-day	331.0	116.1	373.5	505.0	592.1	675.7	783.8	864.8	945.6	1052.1	1132.6
4-day	314.8	117.1	357.7	490.4	578.2	662.5	771.6	853.3	934.8	1042.2	1123.4
3-day	297.6	108.2	337.2	459.9	541.0	618.9	719.7	795.3	870.6	969.9	1044.9
2-day	261.5	90.5	294.6	397.2	465.1	530.3	614.6	677.8	740.8	823.8	886.6
24-hr	208.1	68.3	233.1	310.5	361.7	410.9	474.5	522.1	569.6	632.2	679.6
18-hr	183.6	58.8	205.2	271.9	316.0	358.4	413.2	454.3	495.3	549.3	590.1
12-hr	158.0	48.2	175.7	230.4	266.6	301.3	346.2	379.9	413.5	457.7	491.2
8-hr	137.1	42.5	152.7	200.9	232.8	263.4	303.0	332.7	362.3	401.3	430.8
6-hr	125.5	38.1	139.5	182.7	211.3	238.8	274.3	300.9	327.5	362.5	388.9
4-hr	108.5	38.5	122.6	166.3	195.2	222.9	258.8	285.7	312.5	347.8	374.6
2-hr	83.5	28.7	94.0	126.5	148.1	168.8	195.5	215.6	235.5	261.9	281.8
1-hr	62.6	19.0	69.6	91.2	105.4	119.1	136.9	150.2	163.4	180.9	194.1
30-min	44.3	9.4	47.8	58.5	65.5	72.3	81.1	87.7	94.3	102.9	109.5
15-min	27.6	6.0	29.8	36.6	41.1	45.5	51.1	55.3	59.5	65.0	69.2
10-min	20.7	4.5	22.4	27.5	30.9	34.2	38.4	41.5	44.7	48.9	52.0
5-min	12.0	2.4	12.8	15.6	17.3	19.1	21.3	23.0	24.6	26.8	28.5

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Raingauge H17

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. H17

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	687.2	219.5	767.6	1016.4	1181.2	1339.2	1543.7	1697.0	1849.7	2051.1	2203.4
15-day	482.5	164.9	543.0	729.9	853.6	972.3	1126.0	1241.1	1355.8	1507.2	1621.5
7-day	357.4	126.1	403.6	546.5	641.2	731.9	849.4	937.5	1025.2	1140.9	1228.4
5-day	329.0	117.0	371.9	504.4	592.2	676.4	785.3	867.0	948.4	1055.7	1136.8
4-day	315.6	117.8	358.7	492.2	580.6	665.4	775.1	857.4	939.3	1047.4	1129.1
3-day	301.7	109.0	341.6	465.1	546.9	625.3	726.9	802.9	878.7	978.8	1054.3
2-day	258.5	90.4	291.6	394.1	461.9	527.0	611.2	674.3	737.2	820.1	882.8
24-hr	209.6	68.7	234.8	312.6	364.2	413.6	477.6	525.6	573.3	636.4	684.0
18-hr	185.2	60.0	207.2	275.3	320.3	363.5	419.4	461.3	503.1	558.2	599.8
12-hr	160.7	50.4	179.1	236.2	274.0	310.2	357.1	392.3	427.3	473.5	508.5
8-hr	138.0	43.8	154.1	203.7	236.6	268.1	308.9	339.5	369.9	410.1	440.5
6-hr	125.5	39.3	139.9	184.4	213.9	242.2	278.8	306.3	333.6	369.7	397.0
4-hr	109.6	38.6	123.8	167.5	196.5	224.3	260.2	287.2	314.0	349.5	376.2
2-hr	85.7	26.4	95.4	125.3	145.2	164.2	188.8	207.2	225.6	249.9	268.2
1-hr	63.0	17.9	69.6	89.9	103.3	116.2	132.9	145.4	157.9	174.3	186.7
30-min	42.9	10.6	46.8	58.8	66.8	74.4	84.3	91.7	99.0	108.8	116.1
15-min	27.6	5.7	29.7	36.1	40.4	44.5	49.8	53.8	57.7	62.9	66.9
10-min	21.0	3.6	22.3	26.4	29.1	31.7	35.1	37.6	40.1	43.4	46.0
5-min	12.0	2.4	12.8	15.5	17.3	19.0	21.3	22.9	24.6	26.8	28.4

Raingauge H18

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. H18

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	662.5	232.4	747.6	1011.0	1185.4	1352.6	1569.1	1731.4	1893.0	2106.3	2267.5
15-day	467.3	164.0	527.4	713.3	836.4	954.5	1107.3	1221.8	1335.9	1486.5	1600.3
7-day	350.8	123.8	396.1	536.4	629.3	718.5	833.8	920.2	1006.4	1120.0	1205.8
5-day	324.9	118.5	368.4	502.7	591.6	676.9	787.4	870.1	952.6	1061.3	1143.5
4-day	317.9	114.3	359.8	489.4	575.1	657.4	763.9	843.7	923.2	1028.1	1107.4
3-day	300.8	105.6	339.5	459.2	538.4	614.4	712.8	786.5	859.9	956.8	1030.0
2-day	260.9	87.9	293.1	392.8	458.8	522.1	604.0	665.4	726.6	807.3	868.3
24-hr	205.3	60.7	227.6	296.4	342.0	385.7	442.3	484.7	526.9	582.6	624.8
18-hr	176.9	53.8	196.6	257.6	298.0	336.8	387.0	424.6	462.0	511.4	548.8
12-hr	153.6	43.9	169.7	219.5	252.4	284.0	324.9	355.5	386.1	426.3	456.8
8-hr	138.5	35.9	151.7	192.4	219.3	245.2	278.7	303.7	328.7	361.7	386.6
6-hr	128.2	34.2	140.7	179.4	205.0	229.6	261.4	285.3	309.1	340.4	364.1
4-hr	114.5	29.0	125.1	157.9	179.7	200.6	227.6	247.8	268.0	294.6	314.7
2-hr	87.0	19.6	94.2	116.4	131.1	145.2	163.4	177.1	190.7	208.7	222.3
1-hr	64.7	14.1	69.9	85.9	96.5	106.7	119.9	129.8	139.6	152.6	162.4
30-min	43.9	10.4	47.7	59.5	67.2	74.7	84.3	91.6	98.8	108.3	115.5
15-min	26.8	5.6	28.8	35.1	39.3	43.3	48.5	52.4	56.2	61.3	65.2
10-min	19.9	3.8	21.3	25.6	28.5	31.3	34.8	37.5	40.1	43.6	46.3
5-min	11.0	1.9	11.8	14.0	15.4	16.8	18.6	20.0	21.4	23.1	24.5

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Raingauge H19

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. H19

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	653.7	214.0	732.1	974.7	1135.3	1289.4	1488.8	1638.3	1787.2	1983.6	2132.1
15-day	464.1	163.0	523.9	708.6	830.9	948.2	1100.0	1213.8	1327.2	1476.7	1589.8
7-day	348.4	123.7	393.7	533.9	626.8	715.8	831.1	917.5	1003.6	1117.1	1202.9
5-day	321.6	117.3	364.6	497.5	585.5	669.9	779.2	861.1	942.6	1050.3	1131.6
4-day	310.0	112.4	351.2	478.7	563.0	644.0	748.7	827.3	905.5	1008.7	1086.7
3-day	293.7	103.9	331.8	449.5	527.5	602.3	699.1	771.6	843.9	939.2	1011.3
2-day	250.0	85.5	281.4	378.4	442.6	504.1	583.8	643.6	703.1	781.6	840.9
24-hr	200.9	57.8	222.1	287.6	331.0	372.6	426.4	466.7	506.9	560.0	600.0
18-hr	176.4	52.0	195.5	254.4	293.4	330.8	379.2	415.4	451.6	499.3	535.3
12-hr	153.5	42.4	169.1	217.2	249.0	279.5	319.1	348.7	378.2	417.1	446.5
8-hr	136.1	36.2	149.4	190.4	217.6	243.6	277.3	302.6	327.8	361.0	386.1
6-hr	123.1	35.4	136.0	176.1	202.6	228.1	261.0	285.7	310.3	342.8	367.3
4-hr	109.6	30.4	120.7	155.1	177.9	199.8	228.1	249.3	270.4	298.3	319.4
2-hr	82.4	20.4	89.8	112.9	128.2	142.9	161.9	176.1	190.3	209.0	223.1
1-hr	59.6	14.6	65.0	81.6	92.6	103.1	116.8	127.0	137.2	150.6	160.8
30-min	42.4	9.2	45.7	56.2	63.1	69.7	78.3	84.7	91.1	99.5	105.9
15-min	27.3	4.9	29.1	34.7	38.3	41.9	46.4	49.8	53.2	57.7	61.1
10-min	19.9	4.0	21.4	25.9	28.8	31.7	35.4	38.2	40.9	44.6	47.3
5-min	11.3	2.1	12.1	14.4	16.0	17.5	19.4	20.8	22.3	24.2	25.6

Raingauge H20

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. H20

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	583.1	191.0	653.2	869.7	1013.1	1150.6	1328.6	1462.0	1594.9	1770.2	1902.7
15-day	419.8	145.4	473.1	637.9	746.9	851.6	987.0	1088.5	1189.6	1323.0	1423.8
7-day	302.7	112.6	343.9	471.5	556.0	637.0	741.9	820.5	898.8	1002.1	1080.1
5-day	281.6	103.3	319.5	436.5	514.0	588.3	684.5	756.6	828.4	923.2	994.8
4-day	273.8	100.2	310.5	424.1	499.3	571.4	664.8	734.7	804.4	896.4	965.9
3-day	254.5	94.2	289.0	395.8	466.6	534.4	622.2	688.0	753.5	840.0	905.4
2-day	217.9	75.6	245.6	331.3	388.1	442.5	513.0	565.8	618.5	687.9	740.4
24-hr	176.4	56.0	197.0	260.5	302.5	342.8	395.1	434.2	473.2	524.6	563.5
18-hr	154.0	48.8	171.9	227.2	263.8	298.9	344.4	378.4	412.4	457.2	491.0
12-hr	134.7	42.4	150.2	198.3	230.1	260.6	300.1	329.7	359.1	398.0	427.4
8-hr	119.3	40.2	134.1	179.6	209.8	238.7	276.1	304.2	332.1	369.0	396.9
6-hr	110.6	36.5	123.9	165.3	192.7	218.9	252.9	278.4	303.8	337.3	362.6
4-hr	98.6	33.5	110.9	148.9	174.0	198.1	229.3	252.7	276.0	306.7	329.9
2-hr	79.6	24.9	88.7	117.0	135.7	153.6	176.8	194.2	211.5	234.4	251.7
1-hr	59.6	17.1	65.8	85.2	98.0	110.3	126.2	138.1	150.0	165.7	177.5
30-min	40.8	10.0	44.4	55.8	63.3	70.5	79.8	86.8	93.8	103.0	109.9
15-min	26.1	5.0	27.9	33.6	37.4	41.0	45.7	49.2	52.7	57.3	60.8
10-min	19.4	3.6	20.7	24.8	27.5	30.1	33.5	36.0	38.6	41.9	44.4
5-min	11.2	1.8	11.9	14.0	15.4	16.7	18.4	19.7	21.0	22.6	23.9

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Raingauge H21

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. H21

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	594.2	213.0	672.3	913.6	1073.5	1226.8	1425.2	1573.9	1722.0	1917.5	2065.2
15-day	422.9	163.5	482.9	668.2	790.9	908.6	1060.9	1175.0	1288.8	1438.8	1552.2
7-day	308.2	124.9	354.0	495.6	589.3	679.3	795.7	882.9	969.8	1084.4	1171.1
5-day	283.0	113.2	324.5	452.9	537.8	619.3	724.8	803.9	882.6	986.5	1065.1
4-day	270.8	108.7	310.7	433.9	515.4	593.7	694.9	770.8	846.4	946.2	1021.6
3-day	254.6	97.7	290.4	401.1	474.4	544.7	635.6	703.8	771.8	861.4	929.1
2-day	222.8	81.0	252.4	344.2	405.0	463.3	538.7	595.2	651.5	725.8	782.0
24-hr	177.9	55.0	198.1	260.4	301.6	341.2	392.4	430.8	469.1	519.5	557.7
18-hr	158.7	46.2	175.7	228.0	262.7	295.9	338.9	371.2	403.3	445.7	477.7
12-hr	137.0	41.4	152.1	199.1	230.2	260.0	298.6	327.5	356.4	394.4	423.1
8-hr	121.6	37.0	135.2	177.2	205.0	231.6	266.1	292.0	317.8	351.8	377.4
6-hr	109.9	34.7	122.6	161.9	188.0	212.9	245.3	269.5	293.6	325.5	349.6
4-hr	97.2	30.3	108.3	142.7	165.4	187.2	215.4	236.6	257.6	285.4	306.4
2-hr	74.5	20.1	81.8	104.6	119.6	134.1	152.8	166.8	180.8	199.2	213.2
1-hr	58.1	15.0	63.6	80.5	91.8	102.5	116.5	126.9	137.3	151.1	161.5
30-min	41.2	9.4	44.7	55.4	62.4	69.2	78.0	84.6	91.1	99.8	106.3
15-min	25.9	5.8	28.0	34.6	38.9	43.1	48.5	52.5	56.6	61.9	65.9
10-min	19.2	4.3	20.7	25.6	28.9	32.0	36.0	39.0	42.0	45.9	48.9
5-min	11.2	2.2	12.0	14.5	16.1	17.7	19.8	21.3	22.8	24.8	26.4

Raingauge K01

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. K01

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	634.3	296.5	742.9	1079.0	1301.6	1515.0	1791.3	1998.4	2204.7	2476.8	2682.5
15-day	436.5	213.2	514.7	756.3	916.2	1069.7	1268.3	1417.2	1565.5	1761.1	1909.0
7-day	319.9	152.1	375.7	548.1	662.2	771.7	913.5	1019.7	1125.5	1265.1	1370.6
5-day	295.0	138.2	345.7	502.3	606.0	705.5	834.3	930.8	1027.0	1153.8	1249.7
4-day	283.0	132.8	331.7	482.1	581.8	677.3	801.0	893.7	986.0	1107.9	1200.0
3-day	264.7	122.8	309.8	449.0	541.2	629.6	744.0	829.8	915.2	1028.0	1113.2
2-day	239.1	103.8	277.1	394.8	472.6	547.3	644.0	716.5	788.7	883.9	955.9
24-hr	195.2	76.4	223.2	309.8	367.1	422.1	493.2	546.5	599.7	669.8	722.7
18-hr	174.6	69.0	199.9	278.1	329.9	379.6	443.9	492.1	540.2	603.5	651.4
12-hr	151.8	61.7	174.4	244.2	290.5	334.9	392.3	435.4	478.3	534.9	577.7
8-hr	132.8	52.2	151.9	211.1	250.2	287.8	336.4	372.8	409.1	457.0	493.2
6-hr	124.4	50.1	142.8	199.6	237.2	273.3	320.0	355.0	389.8	435.8	470.6
4-hr	109.8	46.5	126.8	179.5	214.4	247.8	291.1	323.6	355.9	398.6	430.8
2-hr	84.9	33.4	97.2	135.1	160.1	184.2	215.3	238.7	261.9	292.6	315.8
1-hr	59.5	20.5	67.0	90.2	105.6	120.3	139.4	153.7	168.0	186.8	201.0
30-min	39.8	10.6	43.6	55.6	63.6	71.2	81.1	88.5	95.8	105.5	112.9
15-min	24.8	6.8	27.3	35.0	40.1	45.0	51.3	56.0	60.7	66.9	71.6
10-min	18.5	4.6	20.2	25.4	28.9	32.3	36.6	39.8	43.1	47.3	50.5
5-min	10.7	2.7	11.7	14.7	16.7	18.6	21.2	23.0	24.9	27.4	29.2

Raingauge K02

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. K02

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	714.6	265.4	811.9	1112.7	1311.8	1502.9	1750.2	1935.5	2120.1	2363.7	2547.8
15-day	486.3	194.8	557.7	778.6	924.8	1065.0	1246.6	1382.6	1518.2	1697.0	1832.1
7-day	360.9	145.1	414.1	578.5	687.4	791.8	927.0	1028.3	1129.3	1262.4	1363.1
5-day	327.6	134.6	376.9	529.5	630.4	727.3	852.7	946.6	1040.2	1163.7	1257.0
4-day	312.8	135.6	362.5	516.1	617.8	715.4	841.7	936.4	1030.7	1155.1	1249.1
3-day	297.7	125.3	343.6	485.7	579.7	670.0	786.8	874.3	961.5	1076.5	1163.5
2-day	262.0	107.0	301.2	422.4	502.7	579.7	679.4	754.1	828.5	926.7	1000.9
24-hr	210.5	78.2	239.2	327.8	386.5	442.9	515.8	570.4	624.8	696.6	750.9
18-hr	189.2	71.3	215.3	296.2	349.7	401.1	467.6	517.4	567.0	632.5	682.0
12-hr	166.8	61.6	189.4	259.2	305.5	349.9	407.3	450.3	493.2	549.8	592.6
8-hr	143.8	50.3	162.2	219.2	257.0	293.2	340.0	375.1	410.1	456.2	491.1
6-hr	130.8	47.5	148.2	202.0	237.7	271.8	316.1	349.2	382.2	425.8	458.7
4-hr	116.8	42.5	132.3	180.5	212.4	243.0	282.5	312.2	341.8	380.8	410.2
2-hr	90.4	30.3	101.5	135.8	158.5	180.3	208.5	229.7	250.7	278.5	299.5
1-hr	64.2	18.5	71.0	91.9	105.8	119.0	136.3	149.2	162.0	178.9	191.8
30-min	42.7	9.8	46.3	57.4	64.7	71.7	80.8	87.6	94.4	103.4	110.1
15-min	26.5	4.8	28.2	33.7	37.3	40.8	45.2	48.6	51.9	56.4	59.7
10-min	20.2	3.0	21.3	24.8	27.1	29.2	32.1	34.2	36.3	39.1	41.2
5-min	11.8	1.6	12.4	14.3	15.5	16.7	18.2	19.3	20.4	21.9	23.1

Raingauge K03

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. K03

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	679.4	257.1	773.6	1065.0	1257.9	1443.0	1682.5	1862.0	2040.8	2276.8	2455.1
15-day	465.0	193.1	535.8	754.7	899.6	1038.6	1218.5	1353.4	1487.7	1664.9	1798.9
7-day	347.9	149.7	402.7	572.4	684.7	792.5	931.9	1036.4	1140.6	1277.9	1381.8
5-day	324.4	137.0	374.6	529.9	632.7	731.3	859.0	954.6	1049.9	1175.7	1270.7
4-day	310.4	130.7	358.3	506.4	604.5	698.5	820.3	911.5	1002.4	1122.3	1213.0
3-day	289.7	123.9	335.1	475.6	568.6	657.8	773.2	859.7	946.0	1059.7	1145.6
2-day	250.9	101.5	288.1	403.2	479.4	552.5	647.1	718.0	788.7	881.9	952.3
24-hr	192.7	73.6	219.7	303.1	358.4	411.4	480.0	531.4	582.6	650.1	701.2
18-hr	170.9	66.2	195.2	270.3	320.0	367.7	429.4	475.7	521.8	582.6	628.5
12-hr	149.2	54.7	169.3	231.3	272.3	311.7	362.7	400.9	439.0	489.2	527.1
8-hr	131.5	44.7	147.9	198.6	232.1	264.3	306.0	337.2	368.3	409.3	440.3
6-hr	119.5	41.6	134.7	181.9	213.1	243.1	281.9	310.9	339.9	378.1	406.9
4-hr	106.1	38.6	120.3	164.1	193.0	220.8	256.8	283.8	310.6	346.1	372.9
2-hr	82.0	26.8	91.8	122.2	142.3	161.6	186.6	205.3	224.0	248.6	267.2
1-hr	61.7	16.4	67.7	86.3	98.6	110.4	125.7	137.1	148.5	163.6	174.9
30-min	41.1	9.9	44.8	56.0	63.5	70.6	79.9	86.9	93.8	102.9	109.8
15-min	25.9	5.7	28.0	34.5	38.7	42.9	48.2	52.2	56.1	61.4	65.4
10-min	19.3	4.1	20.8	25.4	28.5	31.5	35.4	38.3	41.1	44.9	47.8
5-min	11.0	2.3	11.9	14.5	16.2	17.9	20.1	21.7	23.3	25.4	27.0

Raingauge K04

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. K04

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	709.8	255.4	803.3	1092.8	1284.4	1468.2	1706.1	1884.4	2062.1	2296.4	2473.5
15-day	479.7	190.8	549.6	765.9	909.1	1046.5	1224.3	1357.6	1490.3	1665.5	1797.8
7-day	357.3	147.8	411.5	579.0	689.9	796.2	933.9	1037.1	1139.9	1275.5	1378.0
5-day	329.4	136.7	379.5	534.4	636.9	735.3	862.6	958.1	1053.1	1178.6	1273.4
4-day	315.1	131.3	363.2	511.9	610.4	704.9	827.2	918.9	1010.2	1130.6	1221.7
3-day	299.9	122.1	344.7	483.1	574.8	662.7	776.5	861.8	946.8	1058.9	1143.6
2-day	263.2	100.3	300.0	413.7	489.0	561.2	654.6	724.6	794.4	886.5	956.1
24-hr	208.4	65.5	232.4	306.6	355.7	402.8	463.8	509.5	555.1	615.1	660.5
18-hr	183.4	56.8	204.2	268.6	311.2	352.0	404.9	444.6	484.1	536.2	575.6
12-hr	156.4	47.3	173.7	227.4	262.9	297.0	341.1	374.1	407.0	450.5	483.3
8-hr	137.8	37.4	151.5	193.9	221.9	248.8	283.7	309.8	335.8	370.1	396.0
6-hr	124.1	34.3	136.6	175.4	201.1	225.8	257.7	281.6	305.4	336.9	360.6
4-hr	111.9	28.6	122.4	154.8	176.3	196.9	223.6	243.6	263.5	289.8	309.7
2-hr	86.6	20.8	94.3	117.8	133.4	148.4	167.7	182.2	196.7	215.8	230.2
1-hr	62.8	13.3	67.7	82.8	92.8	102.3	114.7	124.0	133.3	145.5	154.7
30-min	42.5	8.8	45.7	55.7	62.4	68.7	76.9	83.1	89.2	97.3	103.5
15-min	25.9	5.1	27.8	33.6	37.5	41.1	45.9	49.5	53.1	57.8	61.3
10-min	18.9	4.0	20.3	24.8	27.8	30.7	34.4	37.1	39.9	43.5	46.3
5-min	11.1	2.2	11.9	14.4	16.1	17.7	19.8	21.3	22.9	24.9	26.5

Raingauge K05

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. K05

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	660.4	236.3	747.0	1014.8	1192.1	1362.1	1582.3	1747.3	1911.6	2128.5	2292.3
15-day	466.9	171.5	529.7	724.1	852.9	976.3	1136.2	1255.9	1375.3	1532.7	1651.7
7-day	353.6	131.4	401.8	550.7	649.3	743.8	866.2	957.9	1049.3	1169.9	1261.0
5-day	326.0	122.1	370.7	509.2	600.8	688.7	802.5	887.7	972.7	1084.8	1169.5
4-day	315.0	115.9	357.5	488.8	575.8	659.2	767.2	848.1	928.7	1035.0	1115.4
3-day	297.7	106.4	336.6	457.2	537.1	613.7	712.8	787.1	861.1	958.8	1032.6
2-day	257.4	87.5	289.5	388.7	454.3	517.3	598.9	660.0	720.9	801.2	861.9
24-hr	198.6	65.0	222.4	296.1	344.8	391.6	452.2	497.6	542.8	602.4	647.5
18-hr	172.2	56.8	193.0	257.5	300.1	341.0	394.0	433.7	473.3	525.4	564.9
12-hr	150.0	48.0	167.6	221.9	257.9	292.5	337.1	370.6	404.0	448.0	481.3
8-hr	134.1	39.5	148.6	193.4	223.0	251.5	288.3	315.9	343.3	379.6	407.0
6-hr	121.3	38.0	135.2	178.2	206.7	234.0	269.4	295.9	322.3	357.1	383.5
4-hr	106.4	38.0	120.3	163.3	191.8	219.2	254.5	281.0	307.5	342.3	368.6
2-hr	82.1	24.9	91.3	119.5	138.2	156.1	179.3	196.7	214.1	236.9	254.2
1-hr	63.4	16.5	69.4	88.2	100.6	112.5	127.9	139.4	150.9	166.1	177.6
30-min	45.5	11.1	49.6	62.1	70.4	78.4	88.7	96.5	104.2	114.3	122.0
15-min	28.4	4.6	30.1	35.3	38.7	42.0	46.3	49.5	52.7	56.9	60.0
10-min	20.6	3.8	22.0	26.3	29.1	31.9	35.4	38.1	40.7	44.2	46.9
5-min	11.7	1.8	12.4	14.4	15.7	17.0	18.7	19.9	21.1	22.8	24.0

Raingauge K06

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. K06

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	665.2	245.1	755.0	1032.8	1216.7	1393.1	1621.5	1792.6	1963.1	2188.0	2358.0
15-day	466.6	176.7	531.4	731.7	864.2	991.4	1156.1	1279.4	1402.4	1564.5	1687.1
7-day	349.5	131.0	397.5	546.1	644.4	738.7	860.8	952.3	1043.4	1163.7	1254.6
5-day	311.5	126.8	357.9	501.6	596.7	688.0	806.1	894.6	982.8	1099.1	1187.0
4-day	298.9	124.0	344.3	484.8	577.8	667.1	782.6	869.2	955.4	1069.2	1155.2
3-day	282.6	111.3	323.4	449.6	533.2	613.3	717.1	794.8	872.3	974.5	1051.7
2-day	250.1	92.2	283.9	388.4	457.6	524.0	609.9	674.3	738.4	823.1	887.0
24-hr	201.5	66.9	226.0	301.9	352.1	400.3	462.7	509.4	556.0	617.4	663.8
18-hr	180.4	63.8	203.8	276.0	323.9	369.8	429.2	473.8	518.1	576.7	620.9
12-hr	155.9	56.3	176.5	240.3	282.5	323.0	375.5	414.7	453.9	505.5	544.6
8-hr	133.7	46.2	150.6	203.0	237.7	271.0	314.0	346.3	378.4	420.8	452.9
6-hr	122.6	44.1	138.8	188.8	221.9	253.6	294.7	325.5	356.1	396.6	427.2
4-hr	110.8	41.3	125.9	172.7	203.7	233.4	271.9	300.8	329.5	367.4	396.0
2-hr	85.4	28.5	95.8	128.1	149.5	170.0	196.5	216.4	236.2	262.3	282.1
1-hr	60.7	18.6	67.5	88.5	102.4	115.8	133.1	146.1	159.0	176.0	188.9
30-min	42.1	10.2	45.9	57.5	65.2	72.5	82.0	89.2	96.3	105.7	112.8
15-min	27.6	5.9	29.7	36.4	40.8	45.0	50.5	54.6	58.7	64.1	68.1
10-min	20.4	4.3	22.0	26.8	30.0	33.1	37.1	40.1	43.0	47.0	49.9
5-min	11.6	2.0	12.3	14.6	16.1	17.6	19.4	20.9	22.3	24.1	25.5

Raingauge K07

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. K07

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	729.5	291.8	836.4	1167.1	1386.1	1596.1	1868.0	2071.7	2274.7	2542.5	2744.9
15-day	509.7	207.0	585.6	820.2	975.6	1124.6	1317.5	1462.0	1606.0	1796.0	1939.6
7-day	368.1	150.4	423.2	593.7	706.6	814.8	954.9	1060.0	1164.6	1302.6	1406.9
5-day	333.0	138.8	383.9	541.2	645.4	745.4	874.7	971.7	1068.3	1195.7	1292.0
4-day	318.7	138.2	369.4	526.1	629.8	729.3	858.1	954.7	1050.8	1177.7	1273.6
3-day	300.2	129.1	347.5	493.9	590.7	683.7	804.0	894.1	983.9	1102.4	1191.9
2-day	263.5	103.7	301.5	419.1	496.9	571.6	668.2	740.7	812.8	908.0	980.0
24-hr	207.4	79.1	236.5	326.2	385.6	442.5	516.3	571.5	626.6	699.2	754.1
18-hr	185.8	72.4	212.3	294.4	348.8	400.9	468.4	519.0	569.4	635.9	686.2
12-hr	161.1	61.3	183.6	253.1	299.1	343.2	400.3	443.1	485.8	542.0	584.5
8-hr	140.4	47.4	157.8	211.4	247.0	281.1	325.2	358.2	391.2	434.6	467.5
6-hr	127.2	41.8	142.5	189.8	221.2	251.2	290.1	319.3	348.3	386.6	415.6
4-hr	112.1	36.3	125.4	166.5	193.7	219.9	253.7	279.0	304.3	337.6	362.7
2-hr	85.9	28.2	96.2	128.2	149.3	169.6	195.9	215.6	235.2	261.1	280.6
1-hr	59.8	15.8	65.6	83.5	95.3	106.7	121.4	132.5	143.4	157.9	168.9
30-min	40.4	10.3	44.1	55.8	63.5	70.8	80.4	87.6	94.7	104.1	111.2
15-min	25.3	5.7	27.4	33.8	38.1	42.1	47.4	51.4	55.3	60.5	64.4
10-min	18.7	3.9	20.1	24.5	27.4	30.1	33.7	36.4	39.1	42.7	45.3
5-min	10.5	2.3	11.4	14.0	15.8	17.5	19.7	21.3	22.9	25.1	26.7

Raingauge K08

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. K08

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	666.7	231.2	751.4	1013.4	1186.9	1353.3	1568.7	1730.1	1890.9	2103.1	2263.4
15-day	466.8	173.6	530.4	727.2	857.5	982.5	1144.3	1265.5	1386.3	1545.7	1666.1
7-day	351.5	133.8	400.5	552.2	652.6	748.9	873.6	967.1	1060.1	1182.9	1275.8
5-day	324.6	123.3	369.8	509.5	602.0	690.8	805.6	891.7	977.5	1090.6	1176.2
4-day	313.0	117.1	355.9	488.7	576.6	660.9	770.0	851.7	933.2	1040.7	1121.9
3-day	294.2	107.9	333.8	456.1	537.1	614.8	715.3	790.7	865.7	964.8	1039.7
2-day	254.3	91.4	287.8	391.5	460.1	525.9	611.2	675.0	738.6	822.5	886.0
24-hr	193.2	67.1	217.7	293.8	344.1	392.4	454.9	501.8	548.4	610.0	656.6
18-hr	168.8	56.5	189.5	253.6	296.0	336.7	389.4	428.9	468.2	520.1	559.3
12-hr	148.1	46.6	165.1	217.9	252.8	286.3	329.7	362.2	394.6	437.3	469.6
8-hr	132.9	38.3	146.9	190.3	219.0	246.6	282.2	309.0	335.6	370.7	397.3
6-hr	119.4	36.7	132.9	174.5	202.0	228.5	262.7	288.3	313.8	347.5	373.0
4-hr	105.8	36.2	119.1	160.2	187.3	213.4	247.2	272.4	297.6	330.9	356.0
2-hr	79.0	23.3	87.5	113.9	131.4	148.1	169.8	186.1	202.3	223.6	239.8
1-hr	61.3	15.4	66.9	84.4	95.9	107.0	121.4	132.1	142.8	157.0	167.7
30-min	43.3	10.4	47.1	58.9	66.7	74.2	83.9	91.2	98.4	108.0	115.2
15-min	26.6	5.5	28.7	34.9	39.0	43.0	48.1	52.0	55.8	60.8	64.6
10-min	19.3	3.8	20.7	24.9	27.8	30.5	34.0	36.6	39.2	42.6	45.2
5-min	11.0	2.2	11.8	14.4	16.0	17.6	19.7	21.2	22.8	24.8	26.4

Raingauge N01

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. N01

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	731.6	254.4	824.8	1113.1	1304.0	1487.1	1724.2	1901.8	2078.8	2312.2	2488.7
15-day	522.4	188.5	591.4	805.1	946.5	1082.2	1257.8	1389.3	1520.5	1693.4	1824.2
7-day	380.6	142.2	432.8	594.0	700.7	803.1	935.6	1034.9	1133.9	1264.4	1363.1
5-day	343.1	142.7	395.3	557.1	664.1	766.9	899.8	999.4	1098.7	1229.6	1328.6
4-day	327.0	140.1	378.4	537.2	642.4	743.2	873.8	971.6	1069.1	1197.7	1294.9
3-day	313.3	128.9	360.5	506.6	603.3	696.0	816.1	906.1	995.7	1114.0	1203.3
2-day	277.1	104.6	315.4	434.0	512.4	587.7	685.1	758.1	830.9	926.9	999.4
24-hr	218.9	79.8	248.1	338.5	398.3	455.8	530.1	585.8	641.3	714.5	769.8
18-hr	197.1	72.5	223.7	305.9	360.3	412.5	480.1	530.7	581.2	647.8	698.1
12-hr	173.6	56.6	194.4	258.5	301.0	341.8	394.5	434.1	473.5	525.4	564.7
8-hr	145.6	47.9	163.2	217.5	253.4	287.9	332.6	366.0	399.3	443.3	476.5
6-hr	132.5	45.8	149.2	201.1	235.4	268.4	311.0	342.9	374.8	416.8	448.5
4-hr	117.4	40.4	132.2	178.0	208.3	237.3	275.0	303.1	331.2	368.3	396.3
2-hr	90.5	29.4	101.3	134.6	156.7	177.9	205.3	225.9	246.4	273.4	293.8
1-hr	65.3	19.4	72.4	94.4	109.0	123.0	141.1	154.7	168.2	186.1	199.5
30-min	43.3	10.9	47.3	59.7	67.9	75.7	85.9	93.5	101.1	111.2	118.8
15-min	27.2	5.0	29.0	34.7	38.5	42.1	46.8	50.3	53.8	58.5	62.0
10-min	19.9	3.9	21.3	25.7	28.6	31.4	35.0	37.6	40.3	43.9	46.5
5-min	11.5	2.4	12.3	15.0	16.8	18.6	20.8	22.4	24.1	26.3	28.0

Raingauge N02

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. N02

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	708.9	259.2	803.9	1097.6	1292.1	1478.7	1720.1	1901.1	2081.4	2319.2	2499.0
15-day	501.2	183.1	568.3	775.8	913.2	1044.9	1215.5	1343.4	1470.7	1638.7	1765.7
7-day	373.2	146.5	426.9	592.9	702.9	808.3	944.8	1047.1	1149.0	1283.4	1385.0
5-day	335.0	133.2	383.8	534.8	634.8	730.8	854.9	947.9	1040.6	1162.9	1255.4
4-day	313.3	127.1	359.9	504.0	599.4	690.9	809.3	898.1	986.5	1103.2	1191.4
3-day	299.4	122.2	344.2	482.7	574.4	662.4	776.2	861.6	946.6	1058.7	1143.5
2-day	263.7	99.4	300.1	412.8	487.4	559.0	651.7	721.1	790.3	881.5	950.5
24-hr	206.7	74.9	234.1	319.0	375.2	429.0	498.8	551.0	603.1	671.8	723.7
18-hr	184.2	67.6	209.0	285.6	336.3	384.9	447.8	495.0	542.0	604.0	650.8
12-hr	162.3	51.4	181.2	239.4	278.0	315.0	362.9	398.8	434.5	481.7	517.4
8-hr	138.9	42.0	154.3	201.9	233.4	263.6	302.7	332.1	361.3	399.8	429.0
6-hr	126.4	37.3	140.1	182.4	210.4	237.2	272.0	298.0	324.0	358.2	384.1
4-hr	111.1	30.6	122.3	157.0	180.0	202.0	230.5	251.8	273.1	301.2	322.4
2-hr	87.0	22.7	95.3	120.9	137.9	154.2	175.3	191.2	206.9	227.7	243.4
1-hr	63.5	13.3	68.4	83.5	93.5	103.1	115.5	124.9	134.1	146.4	155.6
30-min	42.8	6.4	45.2	52.4	57.2	61.8	67.7	72.1	76.6	82.4	86.8
15-min	27.1	3.9	28.6	32.9	35.8	38.6	42.2	44.9	47.6	51.1	53.8
10-min	20.0	2.8	21.1	24.3	26.4	28.5	31.1	33.1	35.1	37.7	39.7
5-min	11.4	1.5	11.9	13.7	14.8	15.9	17.3	18.4	19.5	20.9	22.0

Raingauge N03

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. N03

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	674.9	266.4	772.6	1074.5	1274.4	1466.2	1714.4	1900.4	2085.7	2330.2	2515.0
15-day	468.4	182.5	535.3	742.1	879.0	1010.4	1180.4	1307.8	1434.8	1602.3	1728.8
7-day	349.8	124.1	395.3	535.9	629.1	718.4	834.0	920.6	1006.9	1120.8	1206.9
5-day	313.0	117.4	356.0	489.1	577.2	661.7	771.1	853.1	934.8	1042.6	1124.0
4-day	296.3	109.2	336.3	460.1	542.0	620.7	722.4	798.7	874.7	974.9	1050.7
3-day	284.2	102.2	321.7	437.6	514.3	587.9	683.2	754.6	825.7	919.6	990.5
2-day	251.3	86.8	283.1	381.4	446.5	509.0	589.9	650.5	710.8	790.5	850.7
24-hr	206.7	68.5	231.8	309.4	360.9	410.2	474.0	521.8	569.5	632.4	679.9
18-hr	184.5	62.5	207.4	278.3	325.2	370.2	428.4	472.1	515.6	573.0	616.3
12-hr	157.7	48.9	175.6	231.1	267.8	303.0	348.6	382.8	416.8	461.7	495.7
8-hr	134.5	42.6	150.1	198.3	230.2	260.9	300.5	330.2	359.8	398.9	428.4
6-hr	122.9	40.6	137.8	183.8	214.3	243.6	281.4	309.8	338.1	375.4	403.6
4-hr	107.6	34.3	120.2	159.0	184.8	209.5	241.4	265.4	289.2	320.7	344.5
2-hr	81.5	22.9	89.9	115.9	133.1	149.6	171.0	187.0	203.0	224.1	240.0
1-hr	58.3	14.3	63.6	79.7	90.5	100.7	114.0	124.0	133.9	147.0	156.9
30-min	40.6	10.0	44.2	55.5	63.0	70.1	79.4	86.3	93.3	102.4	109.3
15-min	26.2	6.1	28.5	35.4	40.0	44.5	50.2	54.5	58.7	64.4	68.6
10-min	19.8	4.4	21.4	26.4	29.7	32.8	36.9	40.0	43.0	47.1	50.1
5-min	11.2	2.3	12.1	14.7	16.4	18.0	20.2	21.8	23.4	25.5	27.0

Raingauge N04

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. N04

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	664.6	237.0	751.5	1020.1	1198.0	1368.6	1589.5	1755.0	1919.8	2137.4	2301.8
15-day	466.0	178.0	531.3	733.1	866.7	994.8	1160.7	1285.0	1408.8	1572.2	1695.7
7-day	342.1	135.2	391.6	544.8	646.3	743.5	869.5	963.9	1057.9	1181.9	1275.7
5-day	309.8	127.5	356.5	501.0	596.7	688.4	807.2	896.2	984.9	1101.9	1190.3
4-day	298.8	120.7	343.0	479.8	570.4	657.3	769.7	854.0	938.0	1048.8	1132.5
3-day	282.7	111.7	323.6	450.3	534.2	614.6	718.7	796.8	874.5	977.1	1054.6
2-day	249.0	91.2	282.4	385.8	454.3	520.0	605.0	668.7	732.1	815.8	879.1
24-hr	198.9	68.0	223.8	300.9	352.0	400.9	464.3	511.8	559.1	621.6	668.8
18-hr	180.3	60.2	202.4	270.6	315.7	359.0	415.1	457.1	498.9	554.1	595.9
12-hr	157.8	50.4	176.3	233.4	271.3	307.6	354.5	389.7	424.8	471.0	506.0
8-hr	136.4	39.0	150.7	195.0	224.3	252.4	288.7	316.0	343.1	378.9	406.0
6-hr	124.6	33.5	136.9	174.8	200.0	224.1	255.3	278.7	302.0	332.7	356.0
4-hr	107.5	30.8	118.8	153.7	176.9	199.1	227.8	249.3	270.8	299.0	320.4
2-hr	81.1	24.0	89.9	117.1	135.1	152.4	174.8	191.5	208.2	230.3	246.9
1-hr	59.2	17.4	65.6	85.3	98.4	111.0	127.2	139.4	151.5	167.5	179.6
30-min	41.5	11.6	45.7	58.9	67.7	76.0	86.9	95.0	103.1	113.8	121.9
15-min	27.0	7.1	29.6	37.6	42.9	48.0	54.6	59.5	64.4	70.9	75.8
10-min	20.0	5.3	21.9	27.9	31.8	35.6	40.5	44.2	47.9	52.7	56.4
5-min	11.3	2.8	12.4	15.6	17.7	19.8	22.4	24.4	26.4	29.0	30.9

Raingauge N05

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. N05

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	586.7	213.1	664.8	906.3	1066.1	1219.5	1418.0	1566.8	1715.0	1910.5	2058.3
15-day	400.5	148.5	455.0	623.2	734.7	841.5	979.9	1083.5	1186.8	1323.1	1426.1
7-day	308.4	112.6	349.6	477.2	561.7	642.8	747.7	826.3	904.6	1008.0	1086.1
5-day	287.4	103.3	325.2	442.3	519.9	594.2	690.5	762.7	834.5	929.4	1001.0
4-day	274.1	96.3	309.4	418.5	490.8	560.2	649.9	717.2	784.2	872.6	939.5
3-day	261.0	87.3	293.0	391.9	457.4	520.3	601.6	662.5	723.3	803.4	863.9
2-day	233.6	74.7	261.0	345.6	401.7	455.4	525.0	577.1	629.1	697.6	749.5
24-hr	183.2	62.8	206.3	277.5	324.6	369.9	428.4	472.3	516.0	573.7	617.3
18-hr	167.7	58.1	189.0	254.8	298.4	340.2	394.4	434.9	475.3	528.7	569.0
12-hr	143.5	48.9	161.5	216.9	253.7	288.9	334.5	368.6	402.7	447.6	481.5
8-hr	125.9	45.5	142.6	194.1	228.2	261.0	303.3	335.1	366.7	408.5	440.0
6-hr	111.8	40.7	126.8	173.0	203.5	232.9	270.8	299.3	327.6	365.0	393.3
4-hr	93.5	33.5	105.8	143.7	168.8	192.9	224.1	247.5	270.7	301.5	324.7
2-hr	70.7	18.6	77.6	98.7	112.7	126.1	143.5	156.5	169.5	186.6	199.5
1-hr	50.4	13.6	55.4	70.8	81.0	90.8	103.4	112.9	122.4	134.9	144.3
30-min	35.7	9.5	39.2	49.9	57.0	63.8	72.7	79.3	85.9	94.5	101.1
15-min	22.8	6.6	25.3	32.7	37.7	42.4	48.6	53.2	57.8	63.9	68.4
10-min	16.8	5.0	18.6	24.3	28.0	31.6	36.2	39.7	43.2	47.8	51.2
5-min	9.6	2.7	10.6	13.7	15.7	17.6	20.2	22.1	23.9	26.4	28.3

Raingauge N06

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. N06

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	718.1	282.9	821.8	1142.4	1354.8	1558.4	1822.0	2019.5	2216.3	2476.0	2672.2
15-day	504.2	213.2	582.4	824.0	984.0	1137.5	1336.2	1485.0	1633.4	1829.1	1977.0
7-day	370.7	152.9	426.8	600.1	714.9	825.0	967.5	1074.3	1180.7	1321.0	1427.1
5-day	332.0	145.3	385.3	549.9	658.9	763.5	898.9	1000.3	1101.4	1234.7	1335.5
4-day	316.5	137.7	367.0	523.1	626.4	725.6	853.9	950.1	1045.9	1172.3	1267.8
3-day	301.5	128.9	348.7	494.8	591.5	684.3	804.4	894.4	984.1	1102.3	1191.8
2-day	268.2	108.1	307.8	430.3	511.5	589.3	690.0	765.5	840.7	939.9	1014.9
24-hr	213.5	84.8	244.6	340.8	404.4	465.5	544.6	603.8	662.8	740.7	799.5
18-hr	187.6	75.2	215.1	300.3	356.7	410.8	480.8	533.3	585.6	654.5	706.7
12-hr	166.1	59.3	187.8	255.0	299.5	342.1	397.3	438.7	479.9	534.3	575.4
8-hr	142.7	49.1	160.7	216.3	253.1	288.5	334.2	368.5	402.6	447.6	481.7
6-hr	130.1	45.0	146.6	197.6	231.4	263.8	305.7	337.2	368.5	409.8	441.0
4-hr	112.2	40.2	127.0	172.6	202.8	231.7	269.2	297.3	325.3	362.2	390.1
2-hr	86.8	29.5	97.6	131.0	153.1	174.4	201.8	222.4	243.0	270.0	290.5
1-hr	62.2	18.2	68.8	89.5	103.1	116.2	133.2	145.9	158.6	175.3	187.9
30-min	43.2	11.5	47.4	60.5	69.1	77.5	88.2	96.3	104.3	114.9	122.9
15-min	27.8	7.1	30.4	38.4	43.7	48.8	55.4	60.4	65.3	71.8	76.7
10-min	20.7	5.0	22.5	28.2	32.0	35.6	40.2	43.7	47.2	51.8	55.2
5-min	11.7	2.8	12.7	15.8	17.9	19.9	22.4	24.4	26.3	28.8	30.7

Raingauge N07

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. N07

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	489.6	236.6	576.3	844.5	1022.0	1192.3	1412.7	1577.9	1742.5	1959.7	2123.8
15-day	346.9	157.3	404.5	582.8	700.9	814.2	960.8	1070.6	1180.1	1324.5	1433.6
7-day	267.4	114.6	309.4	439.3	525.3	607.7	714.5	794.5	874.2	979.3	1058.8
5-day	248.1	104.5	286.3	404.8	483.1	558.3	655.7	728.6	801.3	897.2	969.6
4-day	240.5	100.5	277.4	391.2	466.6	538.9	632.6	702.7	772.6	864.8	934.5
3-day	228.1	96.0	263.2	372.0	444.1	513.1	602.6	669.6	736.4	824.5	891.0
2-day	206.7	91.2	240.1	343.4	411.8	477.5	562.4	626.0	689.5	773.1	836.4
24-hr	167.6	80.9	197.2	288.9	349.6	407.8	483.2	539.7	595.9	670.2	726.3
18-hr	153.6	73.0	180.4	263.1	317.8	370.3	438.3	489.3	540.0	607.0	657.6
12-hr	135.9	61.8	158.6	228.6	275.0	319.5	377.0	420.2	463.2	519.9	562.8
8-hr	116.6	53.3	136.2	196.5	236.5	274.9	324.5	361.7	398.8	447.7	484.6
6-hr	107.0	47.4	124.3	178.1	213.6	247.7	291.9	325.0	357.9	401.4	434.3
4-hr	93.7	38.5	107.8	151.4	180.3	208.1	243.9	270.8	297.6	333.0	359.7
2-hr	71.7	24.3	80.6	108.2	126.4	143.9	166.5	183.5	200.4	222.7	239.6
1-hr	51.6	13.5	56.5	71.8	81.9	91.6	104.2	113.6	122.9	135.3	144.6
30-min	36.5	6.3	38.8	46.0	50.8	55.3	61.2	65.6	70.1	75.9	80.3
15-min	23.5	4.8	25.2	30.6	34.1	37.6	42.0	45.3	48.6	53.0	56.3
10-min	17.4	3.9	18.8	23.2	26.1	28.9	32.5	35.2	37.9	41.4	44.1
5-min	9.7	2.6	10.7	13.6	15.5	17.4	19.8	21.6	23.4	25.7	27.5

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Raingauge N08

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. N08

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	730.1	242.4	819.0	1093.8	1275.7	1450.2	1676.1	1845.3	2014.0	2236.5	2404.6
15-day	492.2	186.8	560.6	772.4	912.6	1047.1	1221.1	1351.6	1481.5	1653.0	1782.6
7-day	364.3	131.9	412.6	562.1	661.1	756.1	879.0	971.1	1062.9	1184.0	1275.5
5-day	337.4	122.3	382.2	520.8	612.5	700.6	814.5	899.8	984.9	1097.1	1181.9
4-day	323.3	115.6	365.6	496.7	583.5	666.7	774.5	855.2	935.6	1041.8	1122.0
3-day	305.7	105.0	344.2	463.2	542.0	617.5	715.4	788.7	861.7	958.1	1030.9
2-day	269.7	82.0	299.8	392.7	454.2	513.2	589.6	646.8	703.8	779.0	835.9
24-hr	208.8	60.9	231.1	300.1	345.7	389.5	446.3	488.7	531.1	586.9	629.1
18-hr	183.7	53.4	203.3	263.8	303.8	342.3	392.0	429.3	466.4	515.4	552.5
12-hr	159.6	44.9	176.1	227.0	260.7	293.0	334.8	366.2	397.4	438.6	469.7
8-hr	139.4	33.8	151.8	190.2	215.5	239.9	271.4	295.0	318.5	349.5	373.0
6-hr	125.5	32.1	137.3	173.7	197.8	220.9	250.8	273.3	295.6	325.1	347.4
4-hr	111.3	28.9	121.9	154.7	176.4	197.2	224.2	244.4	264.5	291.1	311.2
2-hr	84.1	22.0	92.2	117.2	133.7	149.6	170.1	185.5	200.9	221.1	236.4
1-hr	61.1	11.0	65.2	77.6	85.8	93.7	104.0	111.6	119.3	129.4	137.0
30-min	42.1	7.5	44.9	53.4	59.0	64.4	71.4	76.6	81.8	88.7	93.9
15-min	26.5	4.3	28.1	32.9	36.2	39.2	43.2	46.2	49.2	53.1	56.0
10-min	19.5	3.1	20.6	24.2	26.5	28.7	31.7	33.8	36.0	38.9	41.0
5-min	11.2	1.4	11.7	13.3	14.4	15.5	16.8	17.8	18.8	20.1	21.2

Raingauge N09

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. N09

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	722.5	271.4	822.0	1129.6	1333.3	1528.6	1781.5	1971.0	2159.8	2408.9	2597.2
15-day	496.3	190.6	566.2	782.3	925.4	1062.6	1240.2	1373.3	1506.0	1680.9	1813.2
7-day	375.0	148.2	429.3	597.4	708.6	815.3	953.4	1056.9	1160.0	1296.1	1398.9
5-day	338.5	137.5	388.9	544.8	648.0	747.0	875.1	971.1	1066.8	1193.0	1288.4
4-day	325.0	132.1	373.4	523.1	622.2	717.3	840.4	932.6	1024.5	1145.7	1237.3
3-day	307.2	125.3	353.1	495.1	589.1	679.3	796.0	883.5	970.7	1085.7	1172.6
2-day	265.0	107.1	304.3	425.7	506.1	583.3	683.1	757.9	832.5	930.8	1005.1
24-hr	209.5	82.5	239.7	333.2	395.1	454.4	531.3	588.8	646.2	721.9	779.1
18-hr	186.5	73.5	213.5	296.8	352.0	405.0	473.5	524.8	576.0	643.5	694.5
12-hr	163.1	54.3	183.0	244.5	285.3	324.4	375.0	412.9	450.7	500.5	538.2
8-hr	142.6	42.7	158.2	206.6	238.6	269.3	309.1	338.9	368.5	407.7	437.3
6-hr	132.4	39.0	146.6	190.8	220.1	248.1	284.5	311.7	338.8	374.6	401.6
4-hr	116.7	33.5	129.0	167.0	192.1	216.3	247.5	270.9	294.2	325.0	348.2
2-hr	88.3	21.8	96.3	121.0	137.3	153.0	173.3	188.5	203.6	223.6	238.7
1-hr	61.9	13.5	66.8	82.1	92.2	101.9	114.5	123.9	133.3	145.7	155.1
30-min	41.4	8.7	44.6	54.5	61.1	67.3	75.5	81.6	87.7	95.7	101.7
15-min	27.1	5.5	29.2	35.4	39.6	43.6	48.7	52.6	56.4	61.5	65.4
10-min	20.1	4.2	21.6	26.4	29.6	32.7	36.6	39.6	42.5	46.4	49.3
5-min	11.2	2.2	12.0	14.5	16.2	17.8	19.9	21.4	23.0	25.0	26.5

Raingauge N10

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. N10

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	644.2	243.2	733.3	1009.0	1191.4	1366.5	1593.1	1762.9	1932.1	2155.2	2323.9
15-day	457.0	164.2	517.2	703.2	826.4	944.6	1097.5	1212.2	1326.4	1477.0	1590.9
7-day	348.3	123.9	393.7	534.1	627.1	716.2	831.6	918.1	1004.3	1118.0	1203.9
5-day	323.7	116.4	366.4	498.2	585.6	669.3	777.7	859.0	939.9	1046.7	1127.4
4-day	304.3	116.2	346.9	478.6	565.8	649.4	757.7	838.8	919.7	1026.3	1106.9
3-day	283.9	108.1	323.6	446.1	527.2	605.0	705.7	781.2	856.4	955.6	1030.5
2-day	250.5	97.5	286.2	396.7	469.9	540.1	630.9	699.0	766.8	856.2	923.9
24-hr	196.6	76.7	224.7	311.7	369.2	424.4	495.9	549.5	602.9	673.3	726.5
18-hr	177.3	68.1	202.3	279.4	330.5	379.5	442.9	490.5	537.8	600.3	647.5
12-hr	155.0	54.8	175.1	237.2	278.2	317.7	368.7	406.9	445.0	495.3	533.2
8-hr	132.1	50.3	150.6	207.5	245.3	281.5	328.3	363.4	398.4	444.5	479.4
6-hr	118.2	45.0	134.7	185.7	219.5	251.8	293.8	325.2	356.5	397.8	429.0
4-hr	100.3	38.8	114.5	158.5	187.6	215.6	251.7	278.8	305.8	341.4	368.3
2-hr	75.4	28.2	85.8	117.7	138.9	159.2	185.5	205.2	224.9	250.8	270.4
1-hr	56.6	18.6	63.4	84.5	98.4	111.8	129.1	142.0	154.9	172.0	184.8
30-min	39.5	11.7	43.8	57.1	65.9	74.4	85.3	93.5	101.7	112.4	120.6
15-min	25.7	6.4	28.0	35.3	40.2	44.8	50.8	55.3	59.8	65.7	70.2
10-min	19.4	4.0	20.9	25.4	28.3	31.2	34.9	37.7	40.4	44.0	46.8
5-min	11.1	2.5	12.1	14.9	16.7	18.5	20.9	22.6	24.3	26.6	28.3

Raingauge N11

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. N11

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	618.3	231.7	703.2	965.8	1139.7	1306.4	1522.3	1684.1	1845.3	2057.9	2218.7
15-day	441.9	152.8	497.9	671.1	785.8	895.8	1038.1	1144.8	1251.1	1391.3	1497.3
7-day	334.9	128.5	382.0	527.6	624.0	716.4	836.1	925.8	1015.2	1133.0	1222.1
5-day	308.8	114.4	350.8	480.5	566.3	648.7	755.3	835.2	914.8	1019.8	1099.2
4-day	291.3	108.2	330.9	453.5	534.7	612.6	713.4	788.9	864.2	963.4	1038.5
3-day	268.2	96.2	303.4	412.5	484.7	553.9	643.6	710.8	777.7	866.0	932.7
2-day	237.0	81.1	266.7	358.6	419.5	477.9	553.5	610.1	666.5	741.0	797.2
24-hr	189.9	60.5	212.0	280.6	326.0	369.5	425.9	468.2	510.2	565.8	607.7
18-hr	171.8	55.8	192.3	255.5	297.4	337.5	389.5	428.4	467.2	518.4	557.1
12-hr	154.8	45.4	171.5	222.9	256.9	289.6	331.9	363.5	395.1	436.7	468.2
8-hr	135.4	39.1	149.7	194.0	223.3	251.4	287.8	315.1	342.2	378.1	405.2
6-hr	124.3	36.5	137.7	179.1	206.6	232.9	266.9	292.4	317.9	351.4	376.7
4-hr	110.0	32.3	121.9	158.5	182.7	206.0	236.1	258.6	281.1	310.7	333.1
2-hr	83.1	24.5	92.0	119.8	138.2	155.8	178.6	195.7	212.7	235.2	252.2
1-hr	58.2	17.3	64.6	84.2	97.2	109.6	125.8	137.8	149.9	165.8	177.8
30-min	40.1	10.8	44.1	56.3	64.4	72.2	82.3	89.8	97.4	107.3	114.8
15-min	26.3	4.9	28.1	33.7	37.4	41.0	45.6	49.0	52.5	57.0	60.4
10-min	19.7	3.6	21.0	25.1	27.9	30.5	33.9	36.4	38.9	42.3	44.8
5-min	11.3	1.9	12.0	14.1	15.5	16.9	18.6	20.0	21.3	23.0	24.3

Raingauge N12

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. N12

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	543.6	211.5	621.1	860.8	1019.5	1171.7	1368.7	1516.4	1663.5	1857.6	2004.3
15-day	365.3	130.1	413.0	560.4	658.0	751.6	872.8	963.6	1054.1	1173.5	1263.7
7-day	285.7	98.8	321.9	433.9	508.0	579.1	671.2	740.2	808.9	899.6	968.1
5-day	259.8	91.6	293.3	397.2	465.9	531.8	617.2	681.1	744.8	828.9	892.4
4-day	250.2	89.3	282.9	384.2	451.2	515.5	598.7	661.1	723.2	805.2	867.1
3-day	236.3	77.2	264.6	352.1	410.1	465.6	537.6	591.5	645.2	716.1	769.6
2-day	213.3	72.6	239.9	322.2	376.7	429.0	496.7	547.4	597.9	664.6	715.0
24-hr	175.7	69.9	201.3	280.5	333.0	383.3	448.5	497.3	546.0	610.1	658.6
18-hr	160.5	65.3	184.5	258.5	307.5	354.5	415.3	460.9	506.4	566.3	611.6
12-hr	140.4	59.5	162.3	229.7	274.4	317.2	372.7	414.2	455.6	510.2	551.5
8-hr	120.3	49.3	138.4	194.3	231.3	266.8	312.7	347.1	381.4	426.7	460.9
6-hr	110.8	44.8	127.3	178.0	211.6	243.9	285.6	316.9	348.0	389.1	420.2
4-hr	95.6	36.6	109.0	150.5	177.9	204.2	238.3	263.8	289.2	322.8	348.2
2-hr	72.7	23.9	81.4	108.6	126.6	143.8	166.1	182.8	199.5	221.5	238.1
1-hr	55.6	13.8	60.6	76.2	86.6	96.5	109.3	119.0	128.6	141.2	150.8
30-min	40.2	8.2	43.2	52.5	58.7	64.6	72.3	78.0	83.7	91.3	97.0
15-min	25.7	6.4	28.1	35.3	40.2	44.8	50.8	55.2	59.7	65.6	70.1
10-min	19.3	4.4	20.9	25.9	29.2	32.3	36.4	39.5	42.5	46.5	49.6
5-min	11.0	2.5	11.9	14.7	16.6	18.4	20.7	22.5	24.2	26.5	28.2

Raingauge N13

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. N13

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	712.2	205.9	787.7	1021.1	1175.6	1323.8	1515.7	1659.5	1802.7	1991.7	2134.6
15-day	505.7	169.3	567.8	759.7	886.8	1008.7	1166.5	1284.7	1402.5	1558.0	1675.4
7-day	370.1	135.0	419.6	572.6	673.8	771.0	896.8	991.0	1084.9	1208.8	1302.4
5-day	333.3	118.0	376.5	510.3	598.9	683.9	793.9	876.3	958.4	1066.7	1148.6
4-day	320.5	110.3	361.0	486.0	568.7	648.1	750.9	827.9	904.7	1005.9	1082.4
3-day	295.6	99.2	331.9	444.4	518.8	590.2	682.6	751.8	820.8	911.9	980.7
2-day	261.4	82.3	291.5	384.8	446.6	505.9	582.6	640.1	697.3	772.9	830.0
24-hr	207.2	63.6	230.5	302.5	350.2	396.0	455.2	499.6	543.9	602.2	646.3
18-hr	183.4	59.1	205.0	272.0	316.3	358.8	413.9	455.2	496.3	550.5	591.5
12-hr	162.0	52.4	181.2	240.6	279.9	317.6	366.4	403.0	439.5	487.6	523.9
8-hr	144.5	43.4	160.4	209.7	242.3	273.5	314.0	344.3	374.5	414.4	444.6
6-hr	130.6	40.7	145.5	191.6	222.1	251.4	289.2	317.6	345.9	383.2	411.4
4-hr	115.6	36.3	128.9	170.1	197.4	223.5	257.3	282.7	308.0	341.3	366.5
2-hr	88.8	26.1	98.4	127.9	147.5	166.3	190.7	208.9	227.0	251.0	269.1
1-hr	64.3	19.0	71.2	92.7	106.9	120.6	138.2	151.5	164.7	182.1	195.2
30-min	42.3	10.7	46.2	58.4	66.4	74.2	84.2	91.7	99.1	109.0	116.5
15-min	26.7	7.3	29.4	37.7	43.2	48.5	55.3	60.4	65.5	72.3	77.4
10-min	20.7	5.6	22.8	29.1	33.3	37.4	42.6	46.5	50.4	55.6	59.5
5-min	12.0	3.2	13.2	16.9	19.3	21.6	24.6	26.8	29.1	32.0	34.2

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Raingauge N14

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. N14

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	905.9	361.0	1038.2	1447.4	1718.3	1978.1	2314.5	2566.5	2817.7	3149.0	3399.4
15-day	640.3	249.7	731.9	1014.9	1202.4	1382.1	1614.8	1789.2	1963.0	2192.2	2365.4
7-day	458.9	200.9	532.5	760.2	911.0	1055.6	1242.8	1383.1	1522.9	1707.3	1846.7
5-day	419.5	189.0	488.8	703.0	844.9	981.0	1157.1	1289.1	1420.6	1594.0	1725.2
4-day	398.7	184.4	466.3	675.2	813.6	946.3	1118.1	1246.8	1375.1	1544.3	1672.2
3-day	372.7	175.7	437.1	636.2	768.0	894.5	1058.1	1180.8	1303.0	1464.2	1586.1
2-day	328.6	148.4	382.9	551.1	662.5	769.3	907.5	1011.1	1114.4	1250.6	1353.5
24-hr	259.9	109.7	300.1	424.4	506.7	585.7	687.8	764.4	840.7	941.3	1017.4
18-hr	234.5	97.9	270.4	381.4	454.8	525.3	616.5	684.9	753.0	842.8	910.8
12-hr	196.1	79.3	225.2	315.0	374.5	431.5	505.3	560.7	615.8	688.5	743.5
8-hr	164.6	68.9	189.8	268.0	319.7	369.4	433.6	481.7	529.7	593.0	640.8
6-hr	147.3	59.8	169.2	237.1	282.0	325.0	380.8	422.6	464.2	519.1	560.6
4-hr	124.8	49.9	143.0	199.6	237.1	273.0	319.5	354.3	389.0	434.8	469.4
2-hr	96.5	36.2	109.8	150.8	177.9	204.0	237.7	262.9	288.1	321.3	346.4
1-hr	69.4	24.6	78.5	106.4	124.9	142.6	165.5	182.7	199.8	222.4	239.5
30-min	48.2	16.8	54.4	73.4	86.0	98.0	113.7	125.4	137.0	152.4	164.0
15-min	30.8	10.4	34.6	46.5	54.3	61.8	71.6	78.8	86.1	95.7	103.0
10-min	22.7	7.5	25.4	33.9	39.6	45.0	52.0	57.2	62.4	69.3	74.5
5-min	12.9	4.1	14.4	19.0	22.0	24.9	28.7	31.5	34.4	38.1	40.9

Raingauge N15

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. N15

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	712.9	232.4	798.1	1061.5	1235.9	1403.2	1619.7	1782.0	1943.7	2156.9	2318.1
15-day	495.7	180.8	561.9	766.8	902.5	1032.7	1201.1	1327.3	1453.1	1619.1	1744.5
7-day	367.2	132.6	415.8	566.1	665.7	761.1	884.7	977.3	1069.6	1191.4	1283.4
5-day	336.5	117.9	379.7	513.4	601.8	686.7	796.6	878.9	960.9	1069.1	1150.9
4-day	314.1	109.3	354.1	478.0	560.0	638.7	740.6	816.9	892.9	993.2	1069.1
3-day	289.8	104.2	328.0	446.1	524.3	599.3	696.4	769.2	841.7	937.3	1009.6
2-day	253.0	79.4	282.1	372.1	431.8	488.9	563.0	618.4	673.7	746.6	801.7
24-hr	198.1	59.6	219.9	287.5	332.2	375.1	430.7	472.3	513.8	568.5	609.8
18-hr	177.5	53.8	197.3	258.3	298.7	337.5	387.6	425.2	462.7	512.1	549.5
12-hr	155.7	41.3	170.8	217.7	248.7	278.5	317.0	345.8	374.6	412.5	441.2
8-hr	137.4	33.9	149.8	188.3	213.7	238.2	269.8	293.5	317.1	348.3	371.8
6-hr	125.4	30.6	136.6	171.3	194.2	216.3	244.8	266.1	287.4	315.5	336.7
4-hr	109.1	28.4	119.5	151.7	173.1	193.5	220.0	239.9	259.6	285.7	305.4
2-hr	82.5	19.9	89.8	112.3	127.3	141.6	160.1	174.0	187.8	206.1	219.9
1-hr	59.4	11.6	63.7	76.9	85.6	94.0	104.8	113.0	121.1	131.8	139.8
30-min	40.5	7.5	43.3	51.8	57.5	62.9	69.9	75.2	80.5	87.4	92.6
15-min	26.8	4.6	28.5	33.8	37.3	40.6	45.0	48.2	51.4	55.7	58.9
10-min	20.0	3.8	21.4	25.7	28.5	31.2	34.7	37.3	39.9	43.4	46.0
5-min	11.6	2.0	12.4	14.7	16.2	17.7	19.5	21.0	22.4	24.2	25.6

Raingauge N16

Extreme Rainfall Depths Corresponding to Various Return Periods (Using Gumbel's Method) at GEO Raingauge No. N16

	Parameters		Return Periods (years)								
Duration	μ	1/α	2	5	10	20	50	100	200	500	1000
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
31-day	672.8	231.9	757.8	1020.7	1194.7	1361.7	1577.8	1739.7	1901.0	2113.9	2274.8
15-day	467.8	184.0	535.2	743.7	881.7	1014.1	1185.5	1314.0	1442.0	1610.8	1738.4
7-day	352.9	138.9	403.8	561.3	665.5	765.5	894.9	991.9	1088.6	1216.0	1312.4
5-day	326.2	133.2	375.0	526.0	625.9	721.8	845.9	938.9	1031.5	1153.7	1246.1
4-day	310.4	127.8	357.2	502.1	598.0	690.0	809.0	898.3	987.2	1104.5	1193.1
3-day	289.2	116.6	331.9	464.0	551.5	635.5	744.1	825.5	906.6	1013.6	1094.5
2-day	251.0	93.3	285.2	390.9	460.9	528.1	615.0	680.2	745.1	830.7	895.4
24-hr	196.4	65.0	220.2	293.8	342.6	389.3	449.8	495.2	540.4	600.0	645.1
18-hr	170.3	62.2	193.1	263.6	310.2	355.0	412.9	456.4	499.6	556.7	599.8
12-hr	148.4	54.4	168.4	230.1	270.9	310.1	360.8	398.8	436.6	486.6	524.3
8-hr	131.2	42.0	146.6	194.2	225.8	256.0	295.2	324.5	353.7	392.3	421.4
6-hr	120.2	37.4	133.9	176.4	204.5	231.4	266.3	292.4	318.5	352.8	378.8
4-hr	106.6	32.2	118.4	154.9	179.1	202.3	232.3	254.8	277.2	306.8	329.1
2-hr	79.2	24.4	88.1	115.8	134.1	151.6	174.3	191.3	208.3	230.6	247.5
1-hr	58.6	17.3	64.9	84.5	97.4	109.9	126.0	138.0	150.0	165.9	177.9
30-min	41.1	10.4	44.9	56.7	64.6	72.1	81.8	89.1	96.4	106.0	113.2
15-min	26.1	5.7	28.2	34.6	38.9	43.0	48.2	52.2	56.1	61.3	65.3
10-min	19.3	4.6	20.9	26.1	29.5	32.8	37.1	40.3	43.4	47.6	50.8
5-min	11.2	2.5	12.1	14.9	16.7	18.5	20.8	22.5	24.2	26.5	28.2

Appendix D

Best-fit Curves Showing Rainstorm Duration and Intensity in Hong Kong for Different Return Periods

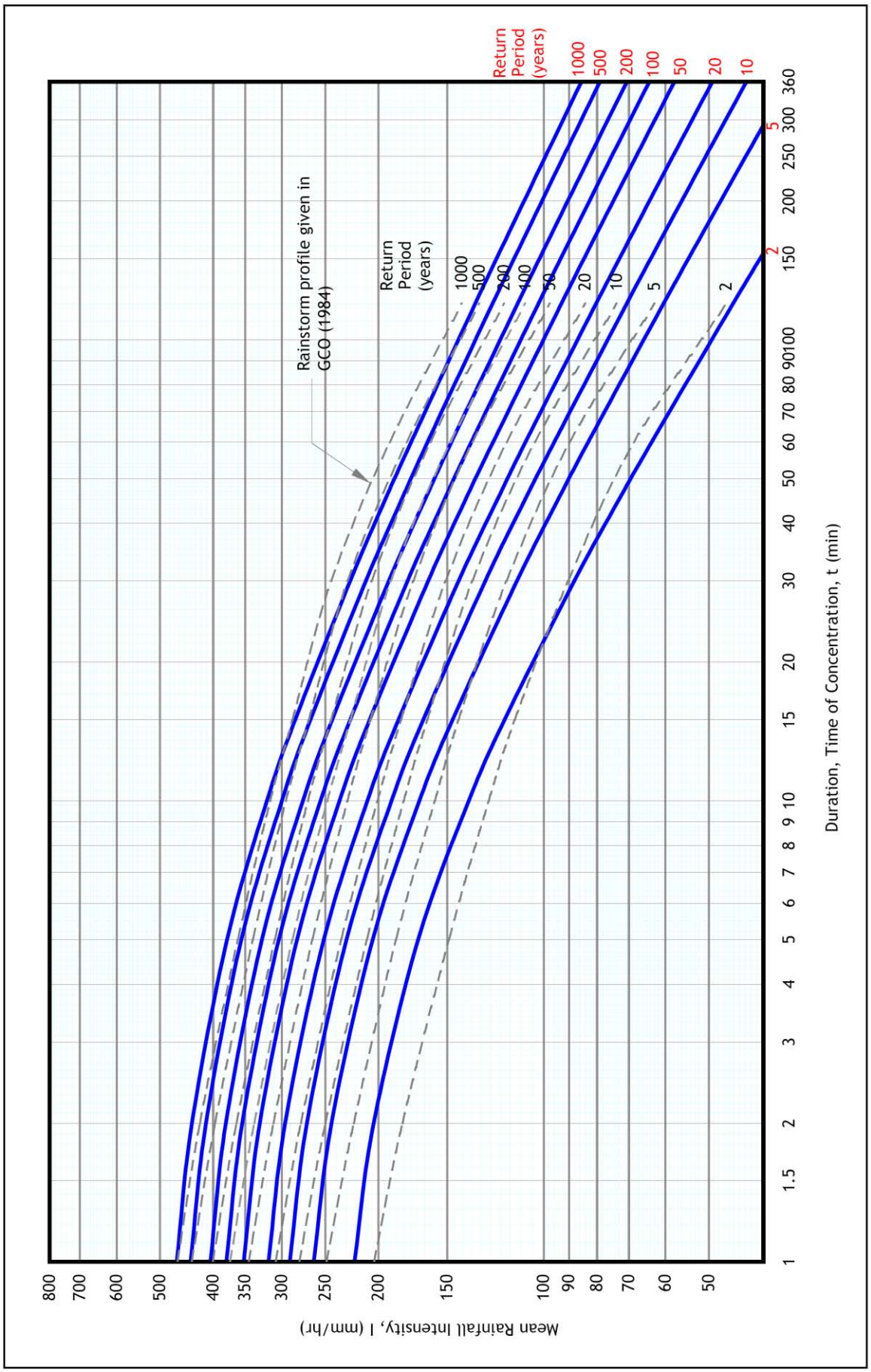

Figure D1 - Raingauge H01 at St. Clare's Girls' School, 50 Mount Davis Road

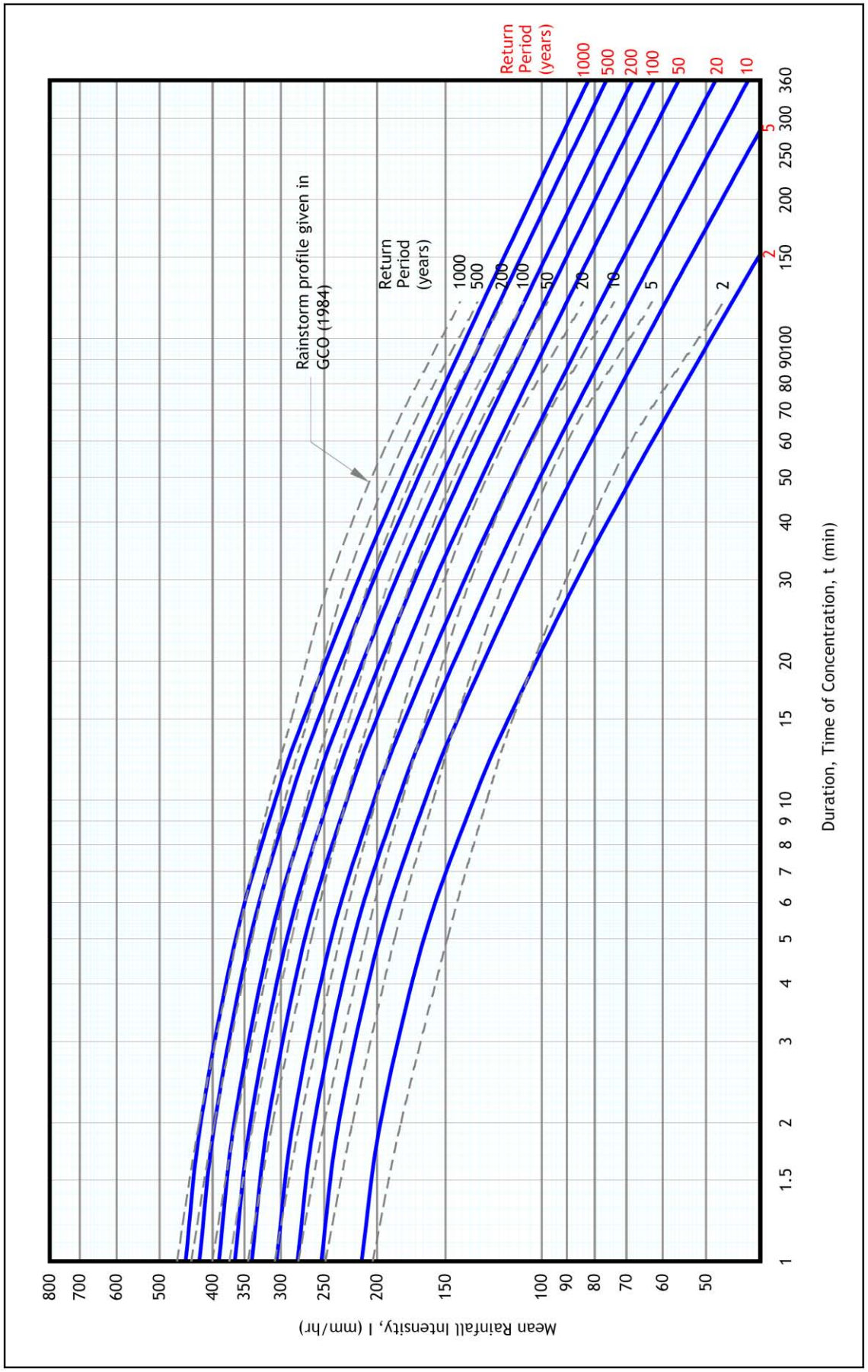

Figure D2 - Raingauge H02 at Block C & D, Kwun Lung Lau Estate, Lung Wah Street

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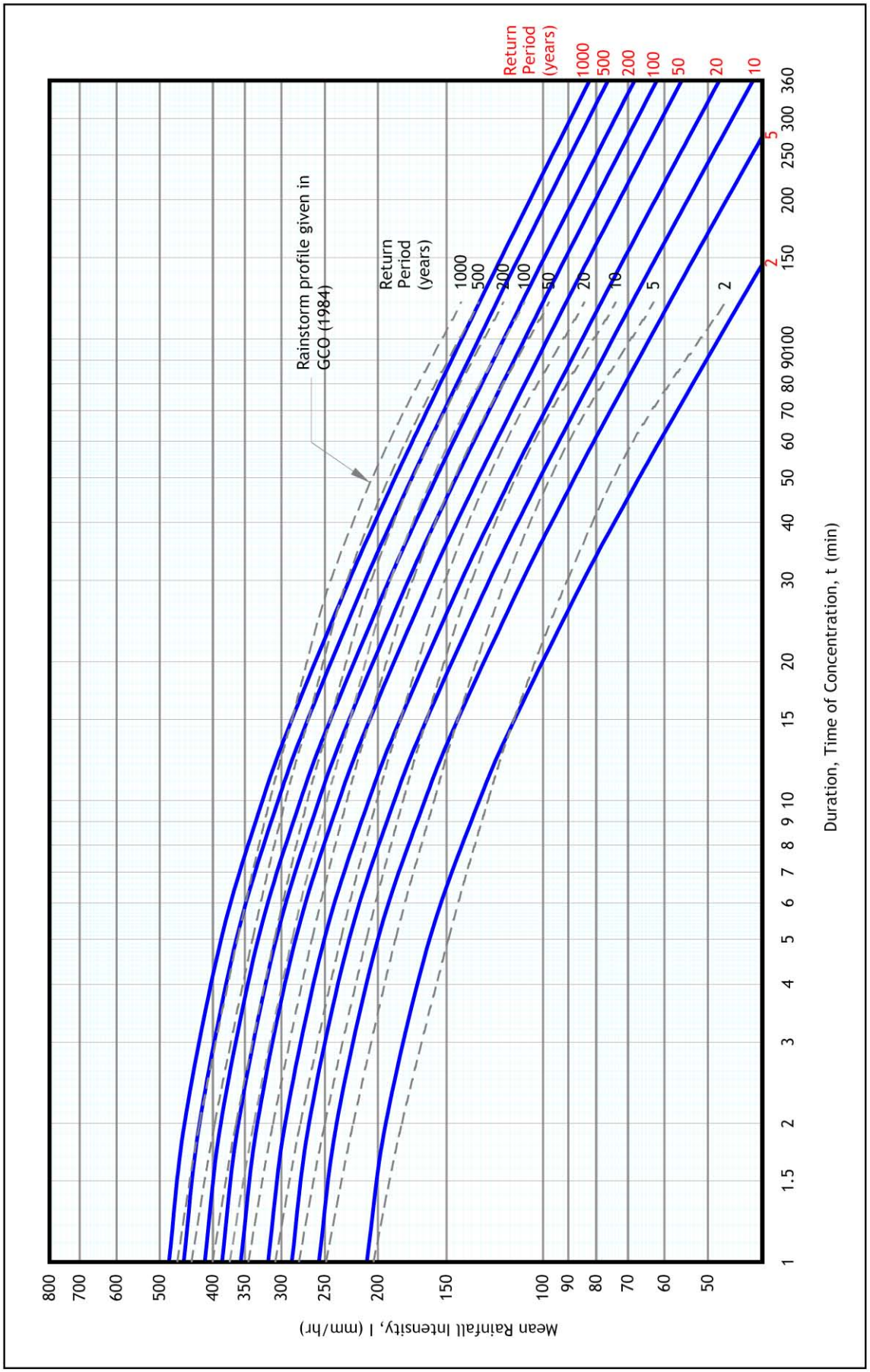

Figure D3 - Raingauge H03 at Block 44, Baguio Villa

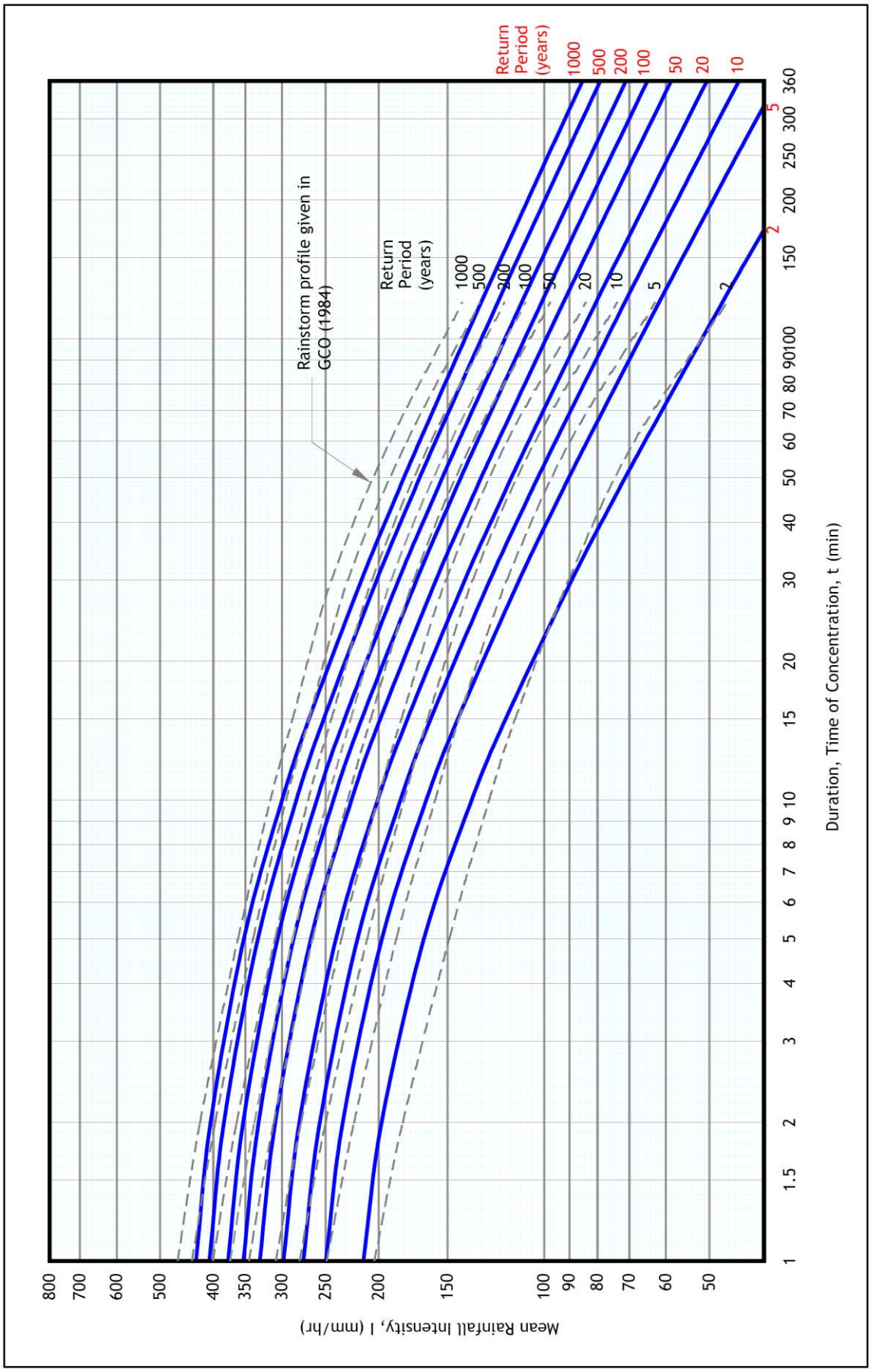

Figure D4 - Raingauge H04 at Knowles Building, University of Hong Kong

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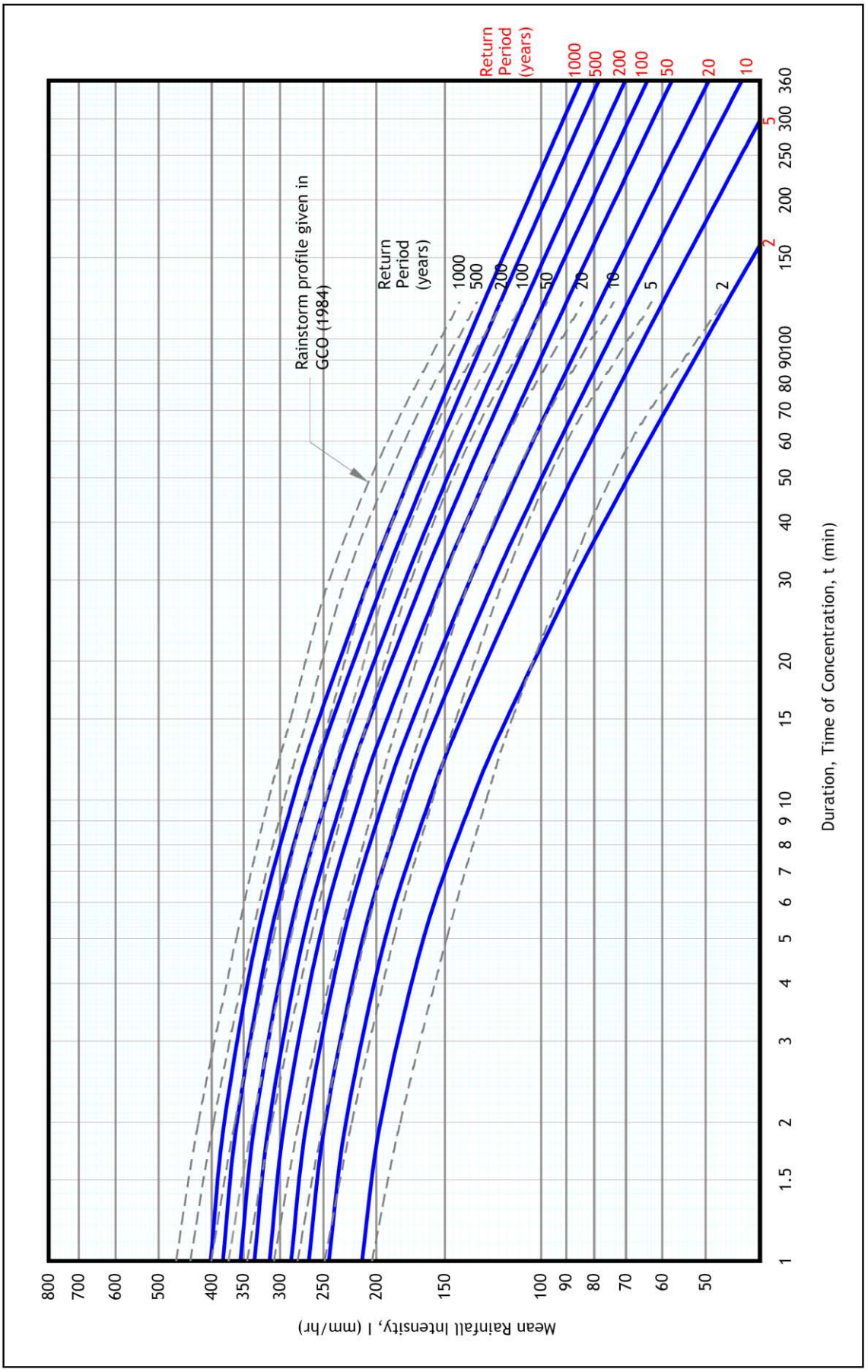

Figure D5 - Raingauge H05 at Aberdeen Treatment Works, Aberdeen Reservoir Road

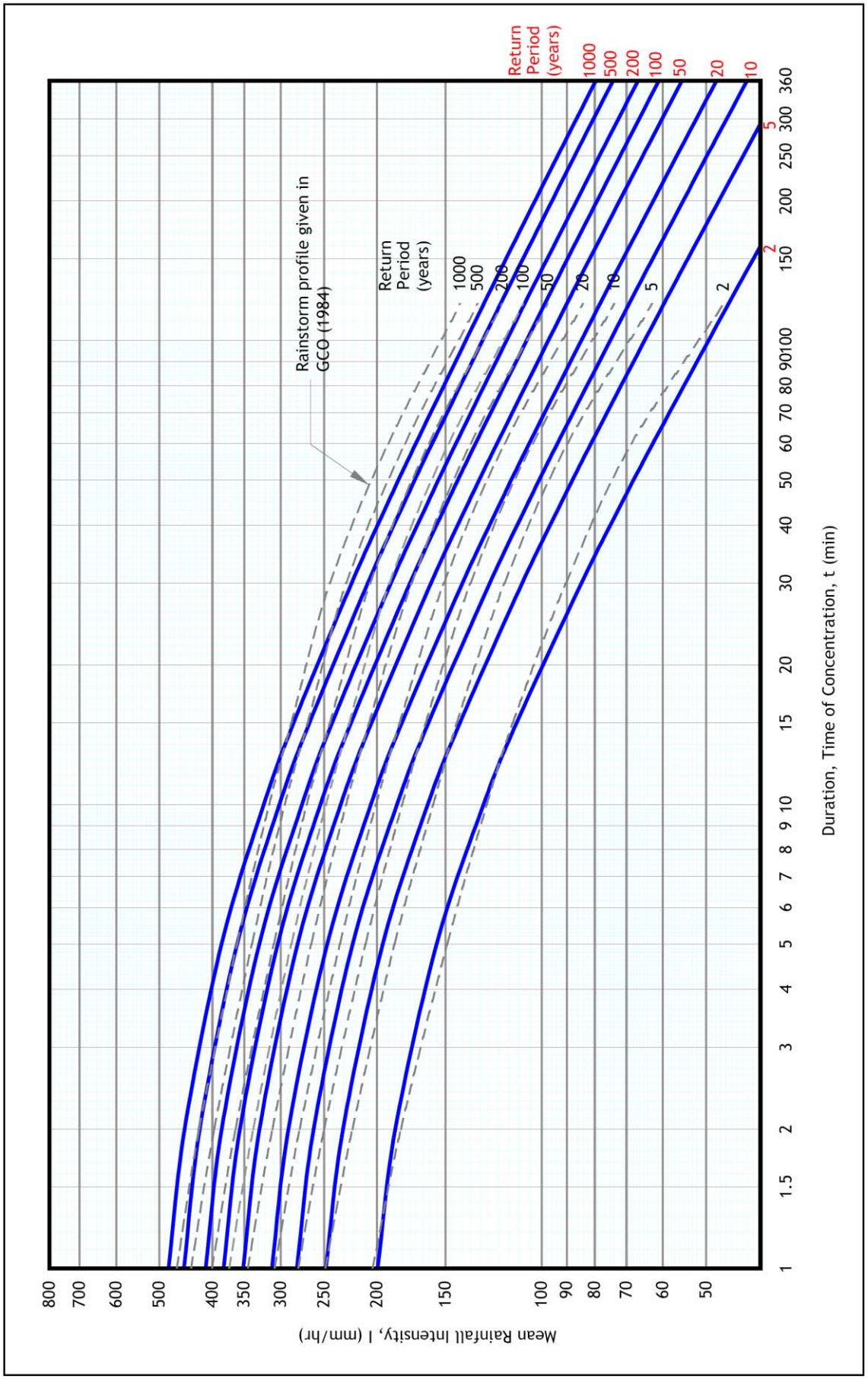

Figure D6 - Raingauge H06 at St. Margaret College, 1E Shiu Fai Terrace

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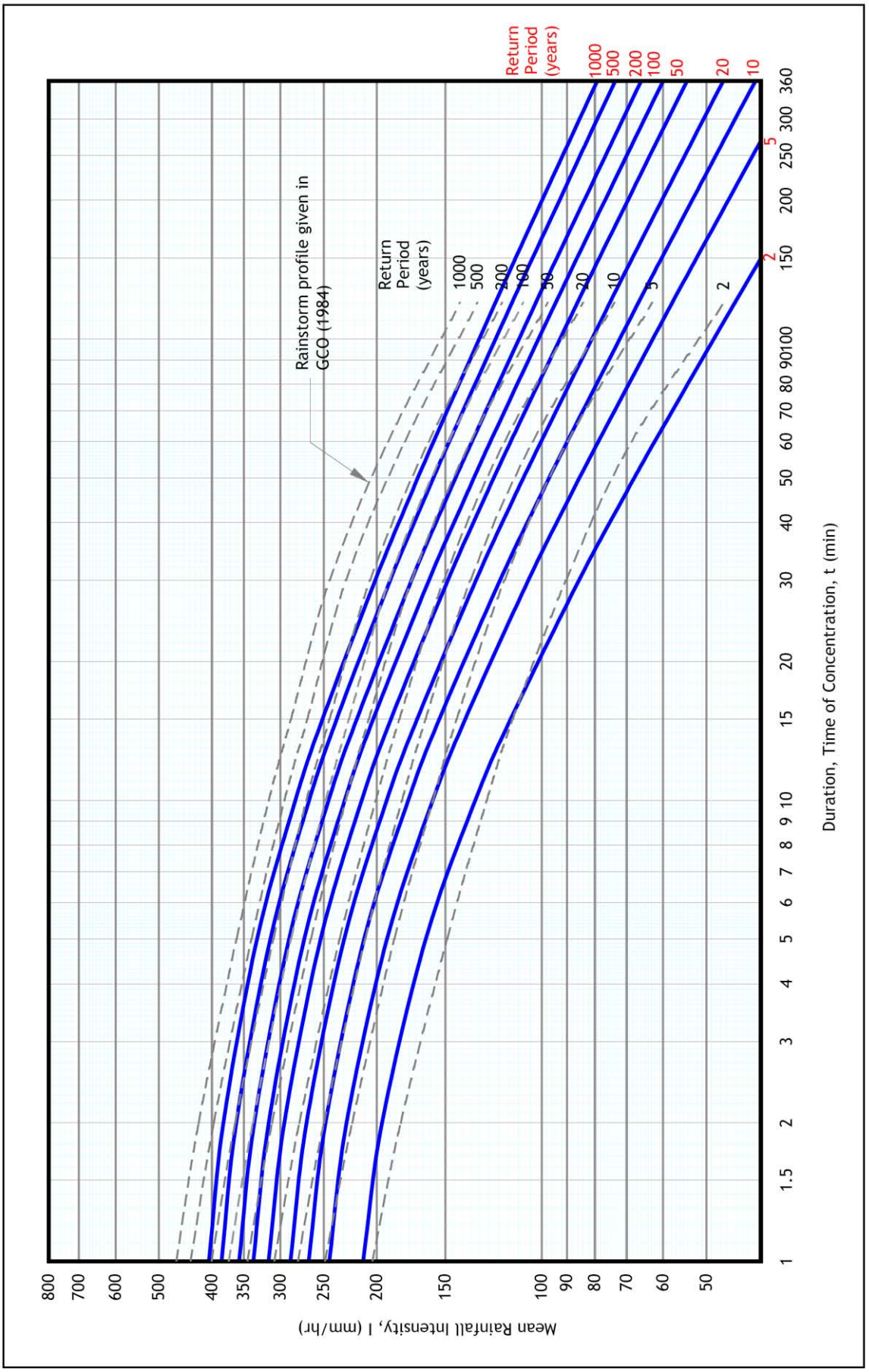

Figure D7 - Raingauge H07 at South China Athletic Assn. Stadium, Caroline Hill Road

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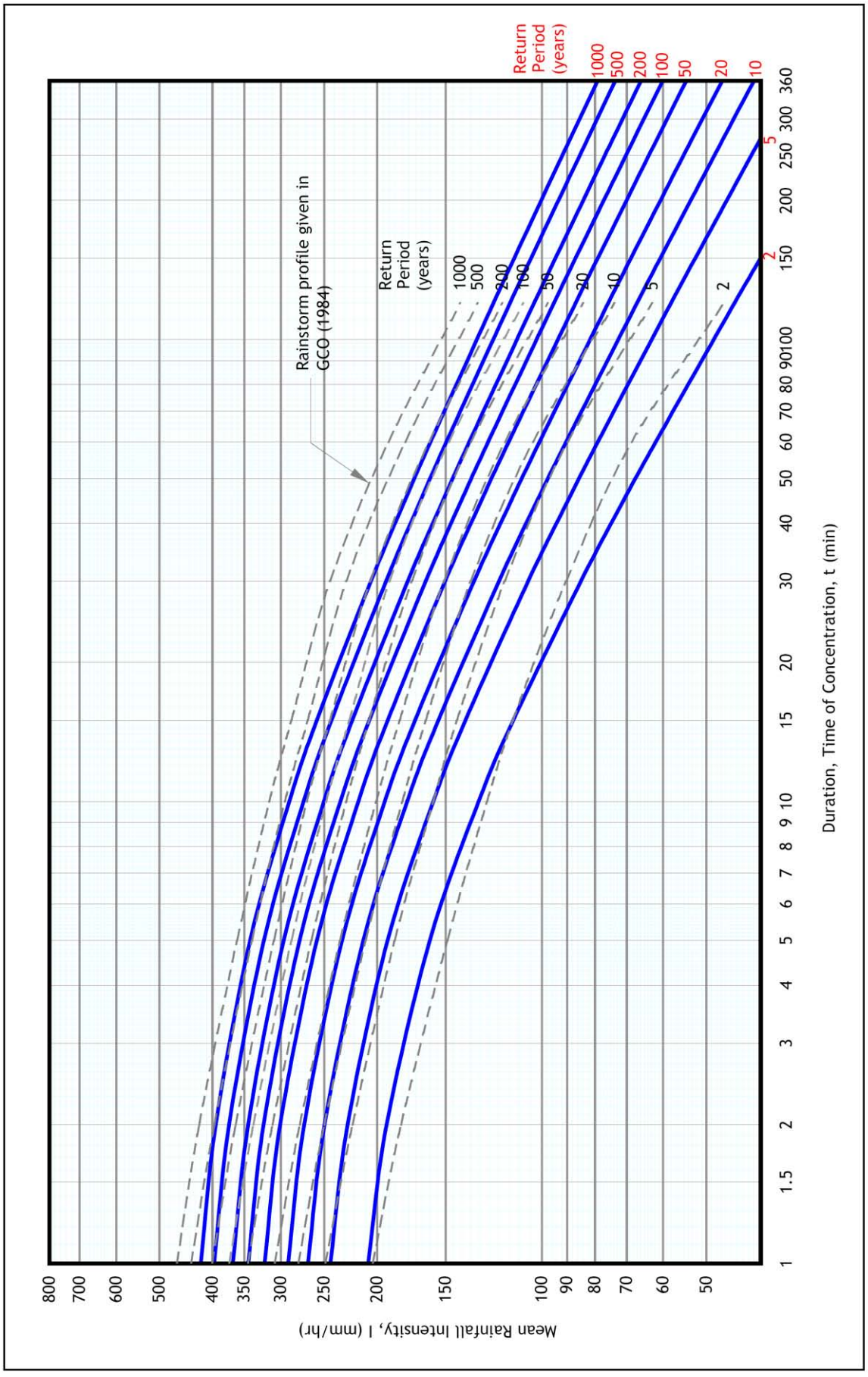

Figure D8 - Raingauge H08 at Eastern Treatment Works, Stubbs Road

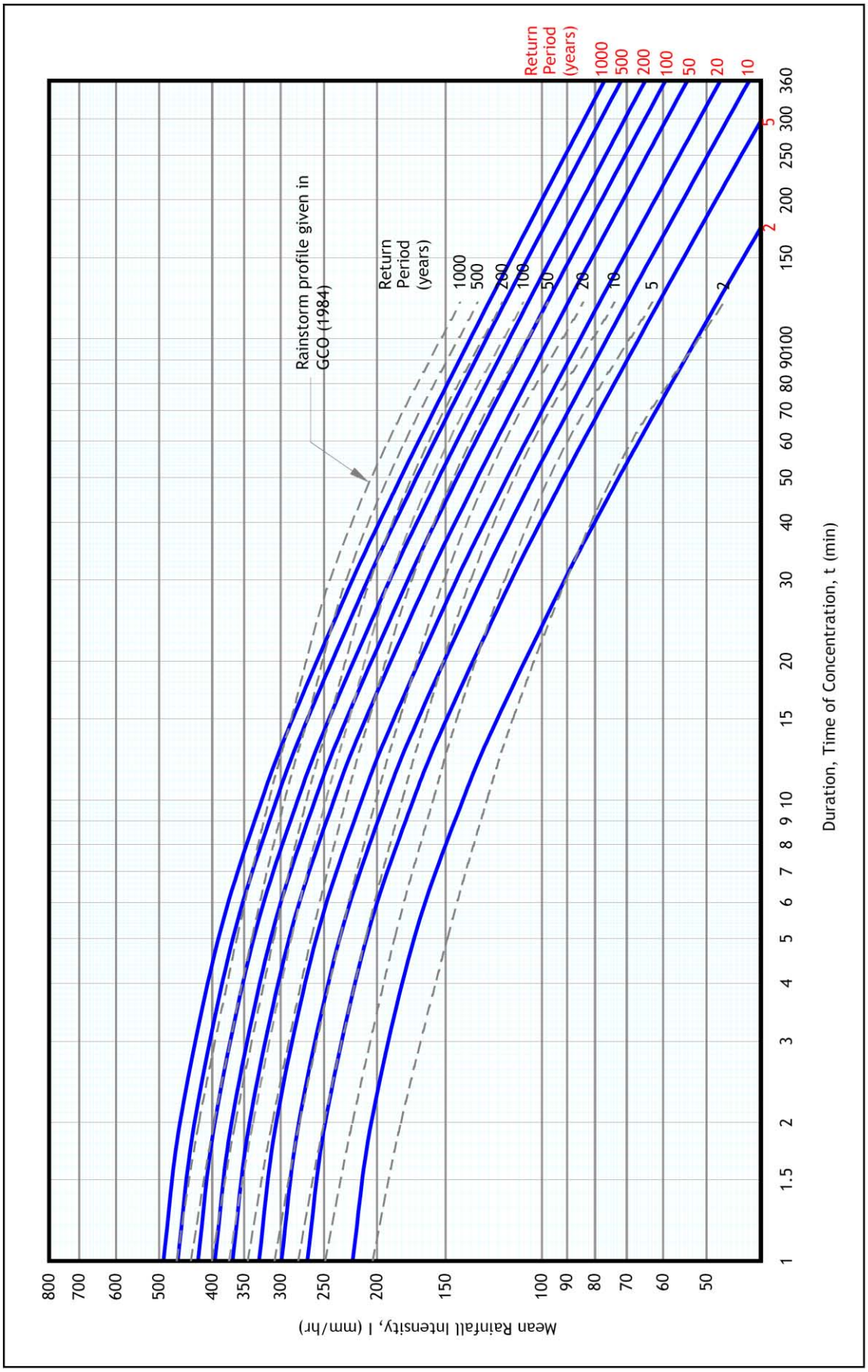

Figure D9 - Raingauge H09 at Kiangsu Chekiang College, 20 Braemar Hill Road

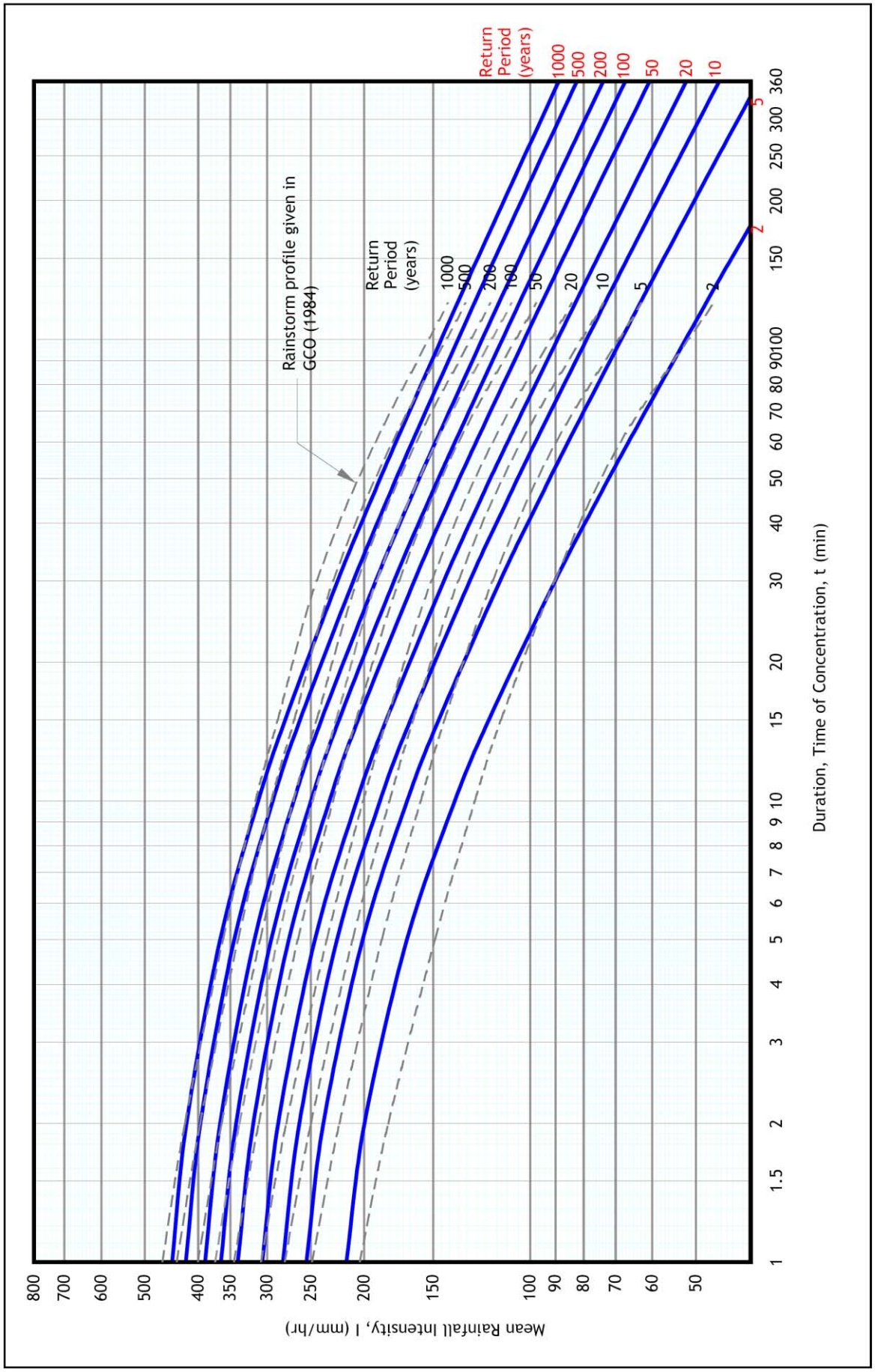

Figure D10 - Raingauge H10 at Peak Wireless Station, Mount Austin Road

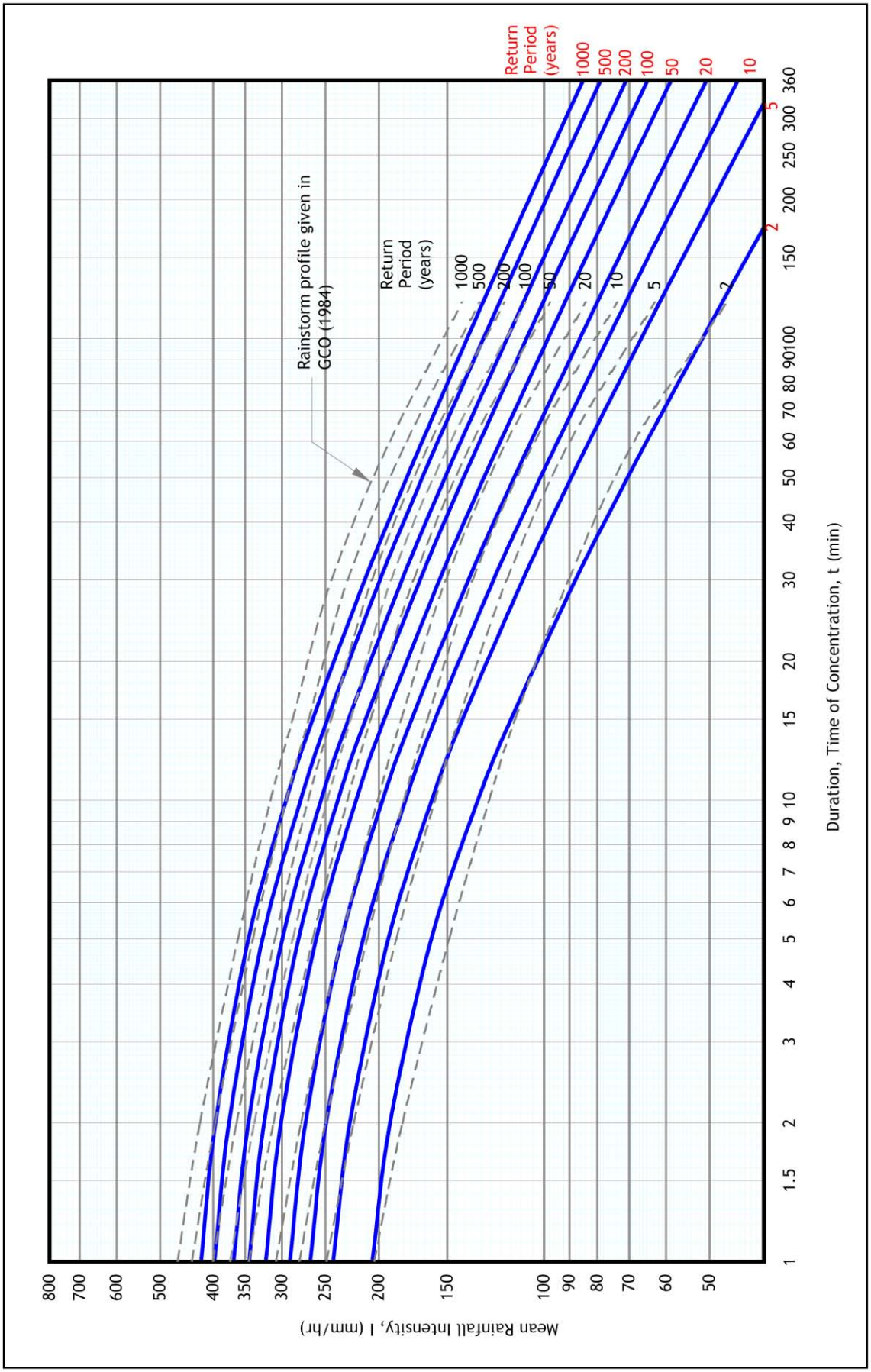

Figure D11 - Raingauge H12 at Buxey Lodge, 37 Conduit Road

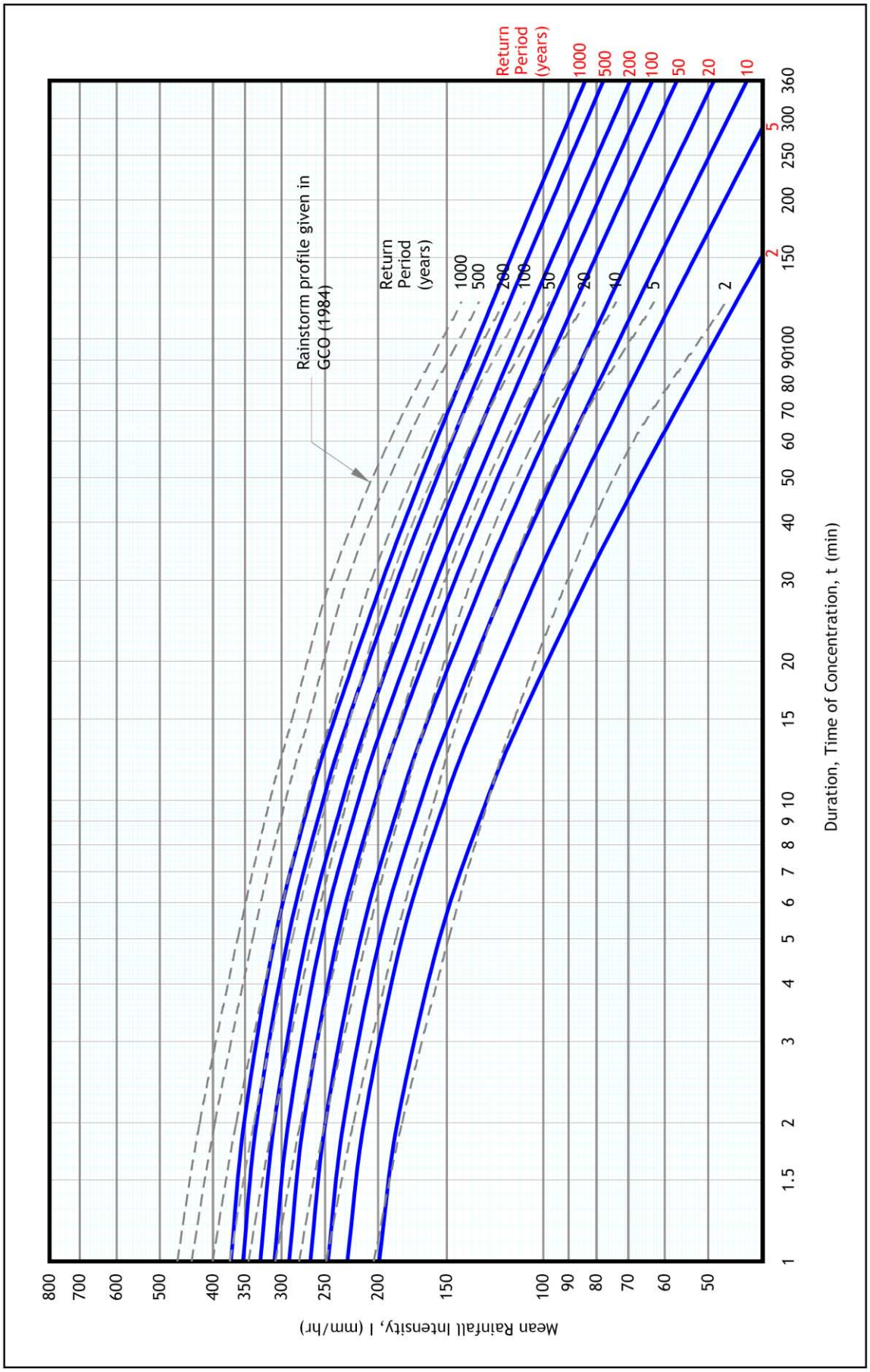

Figure D12 - Raingauge H14 at Wo Hing House, Hing Wah Estate

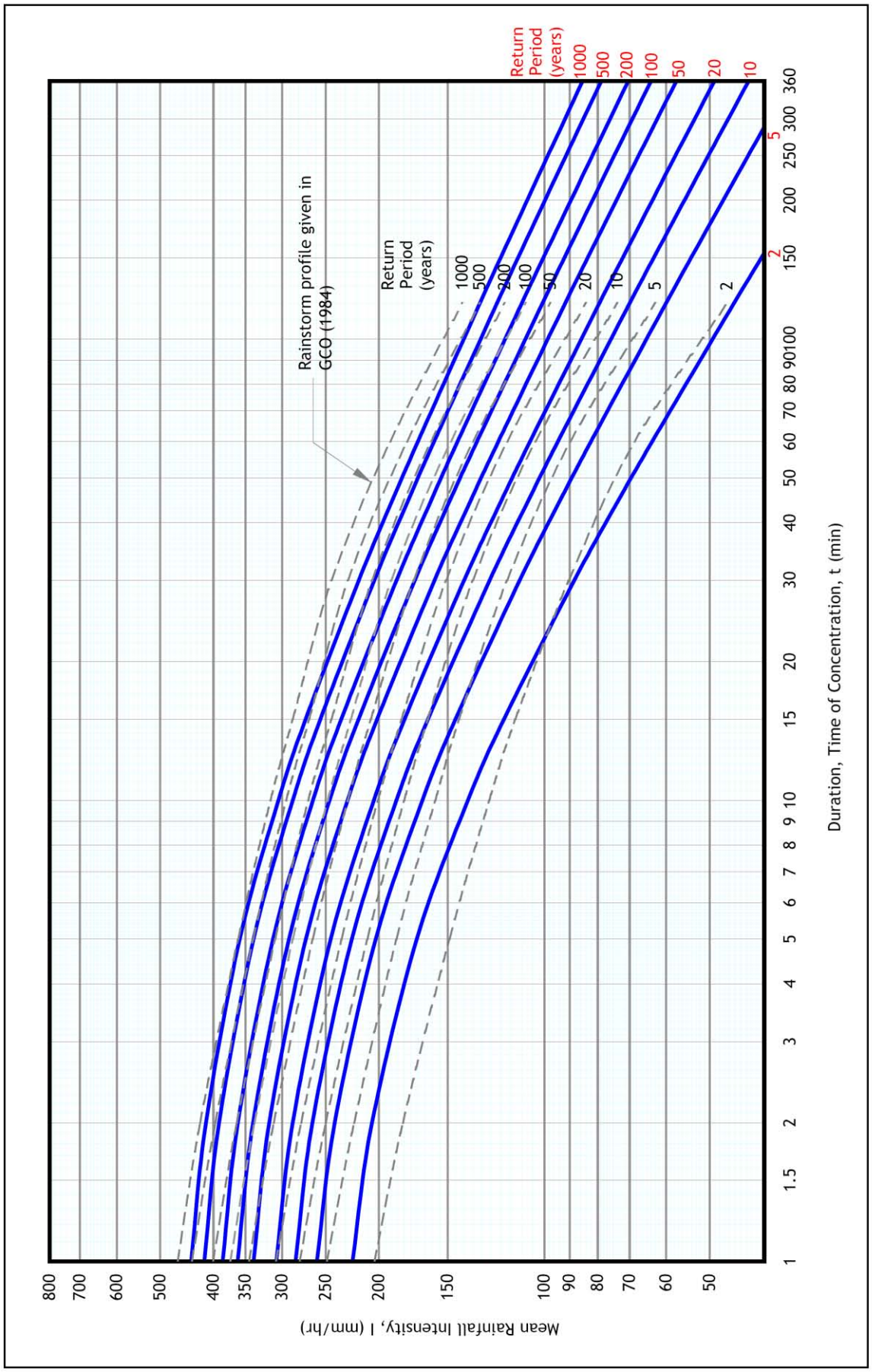

Figure D13 - Raingauge H15 at St. Stephen's College, Tung Tau Wan Road

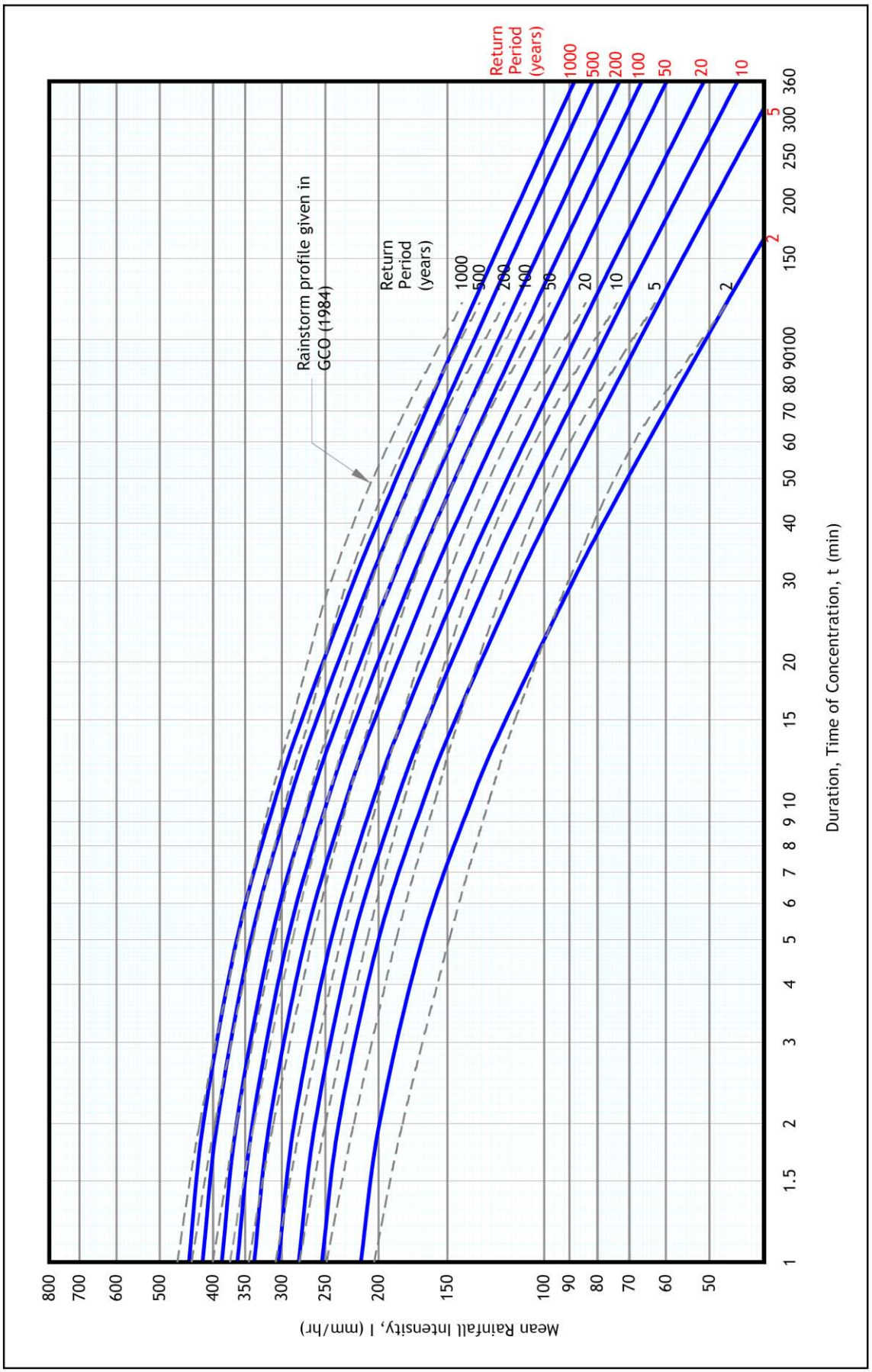

Figure D14 - Raingauge H16 at Peak Primary School, 20 Plunkett's Road

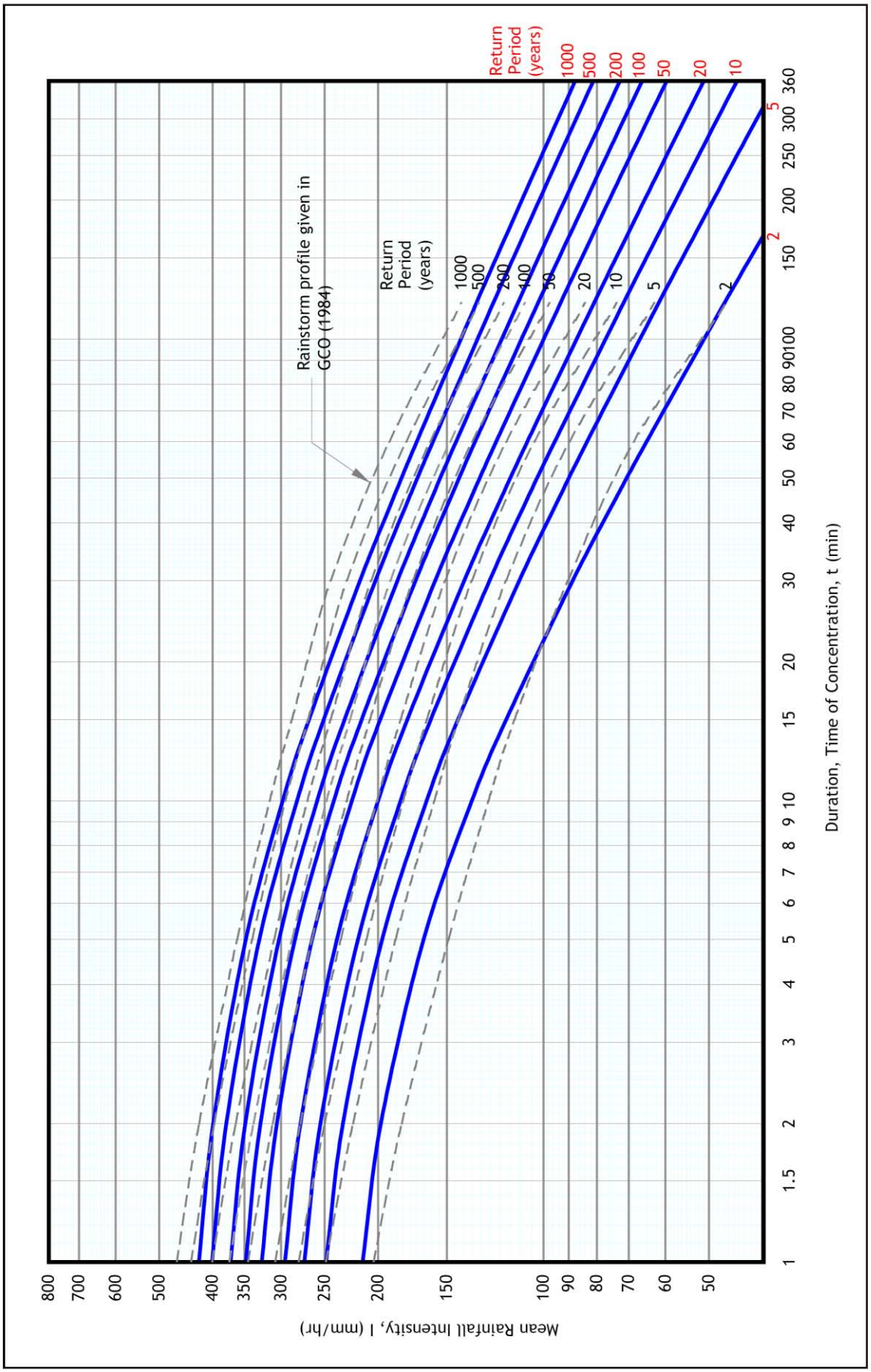

Figure D15 - Raingauge H17 at Magazine Gap Road Fresh Water Pumping Station

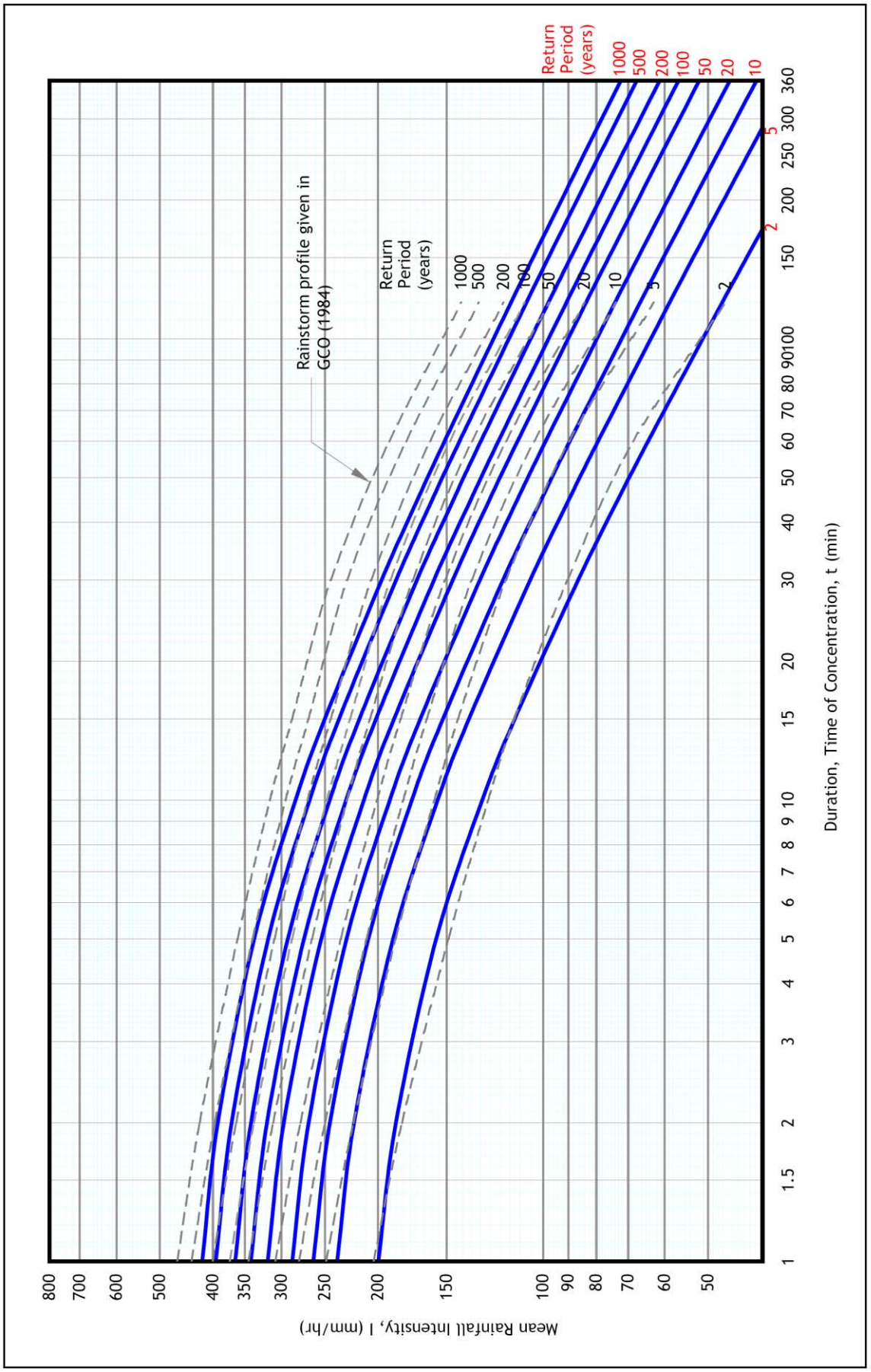

Figure D16 - Raingauge H18 at Shanghai Alumni Primary School, 14 Hong Shing Street, Kornhill

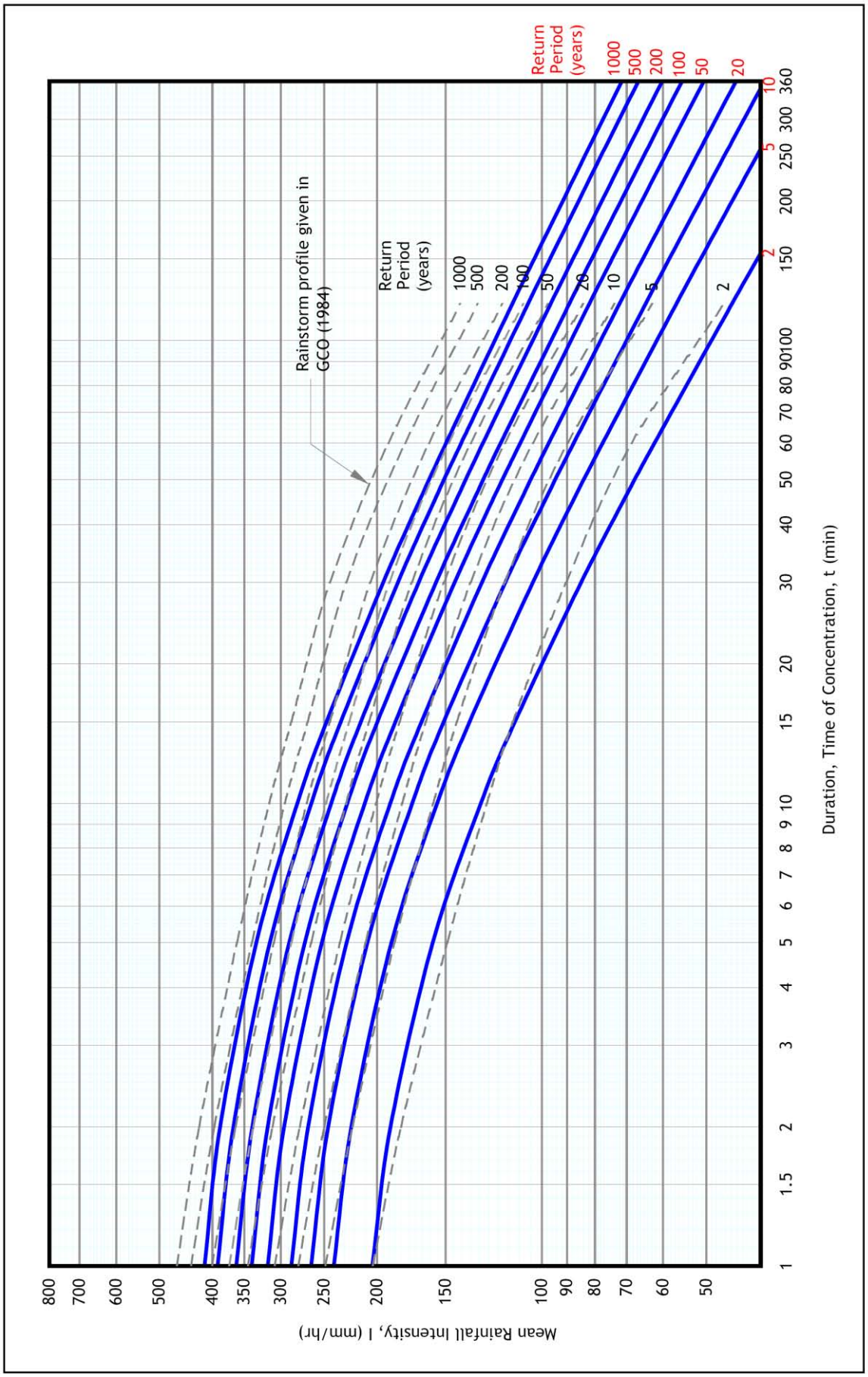

Figure D17 - Raingauge H19 at Salesian English School, 16 Chai Wan Road

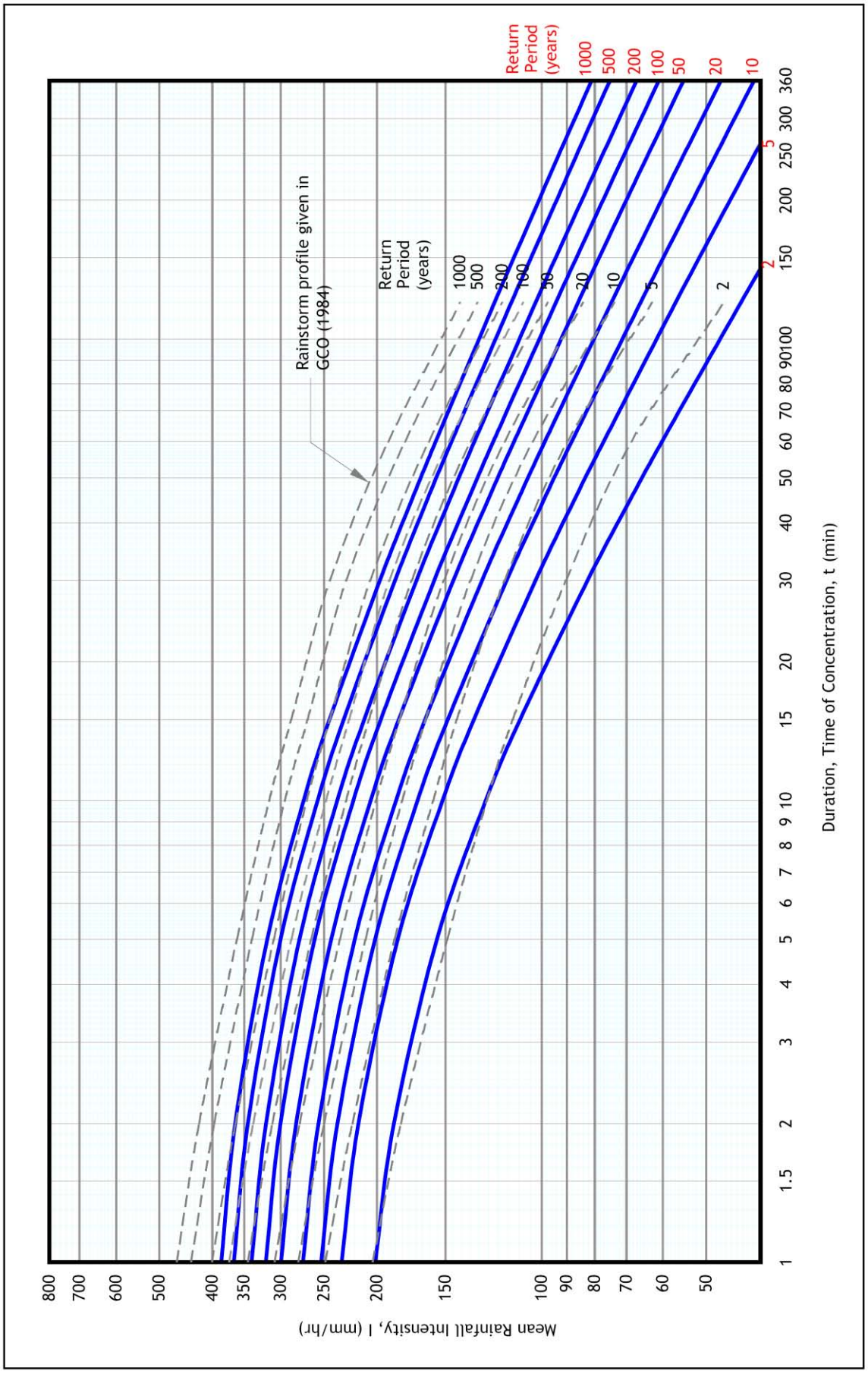

Figure D18 - Raingauge H20 at Block 1-C2, Lei Chak House, Ap Lei Chau Estate

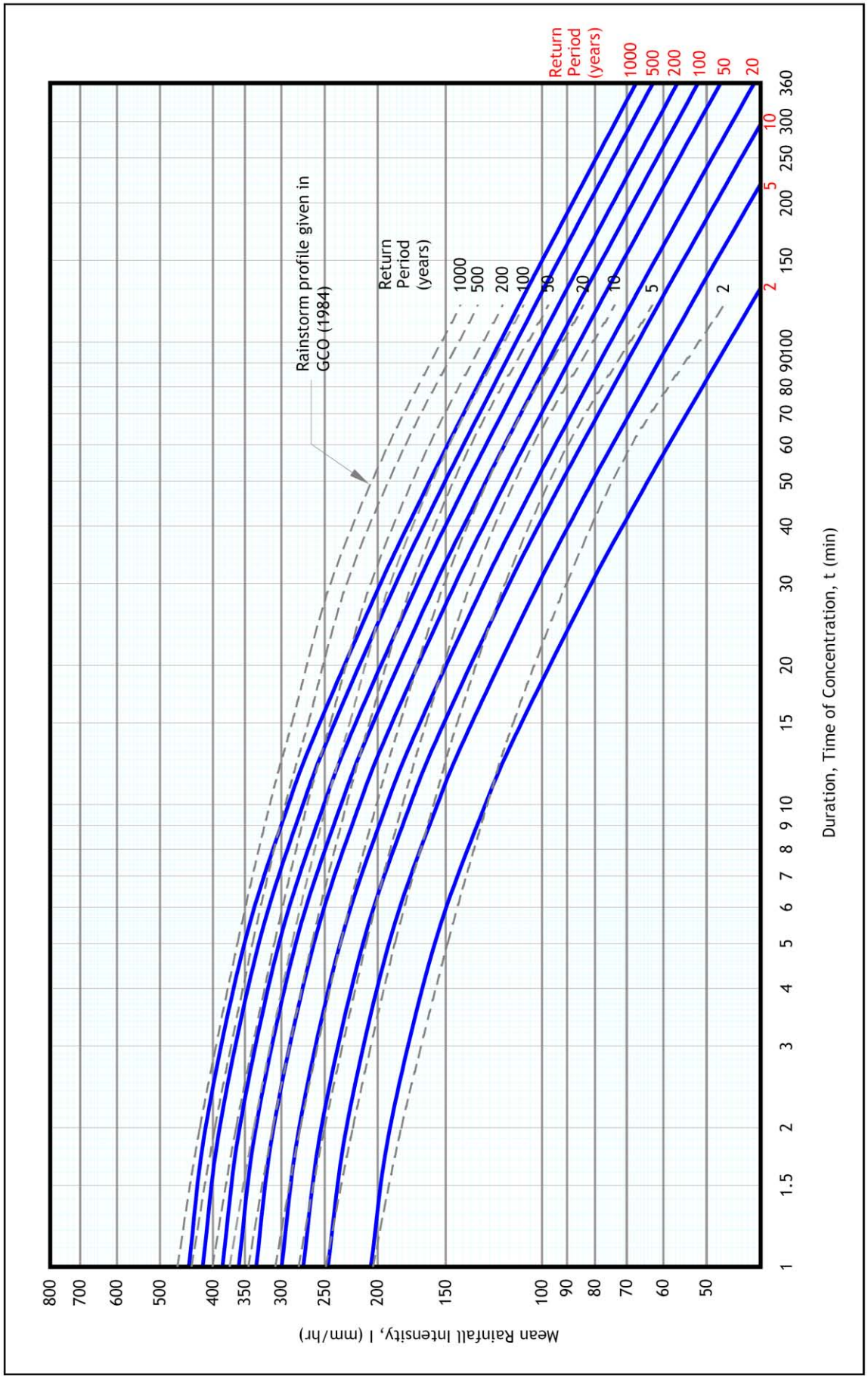

Figure D19 - Raingauge H21 at Block B, 101 Repulse Bay Road

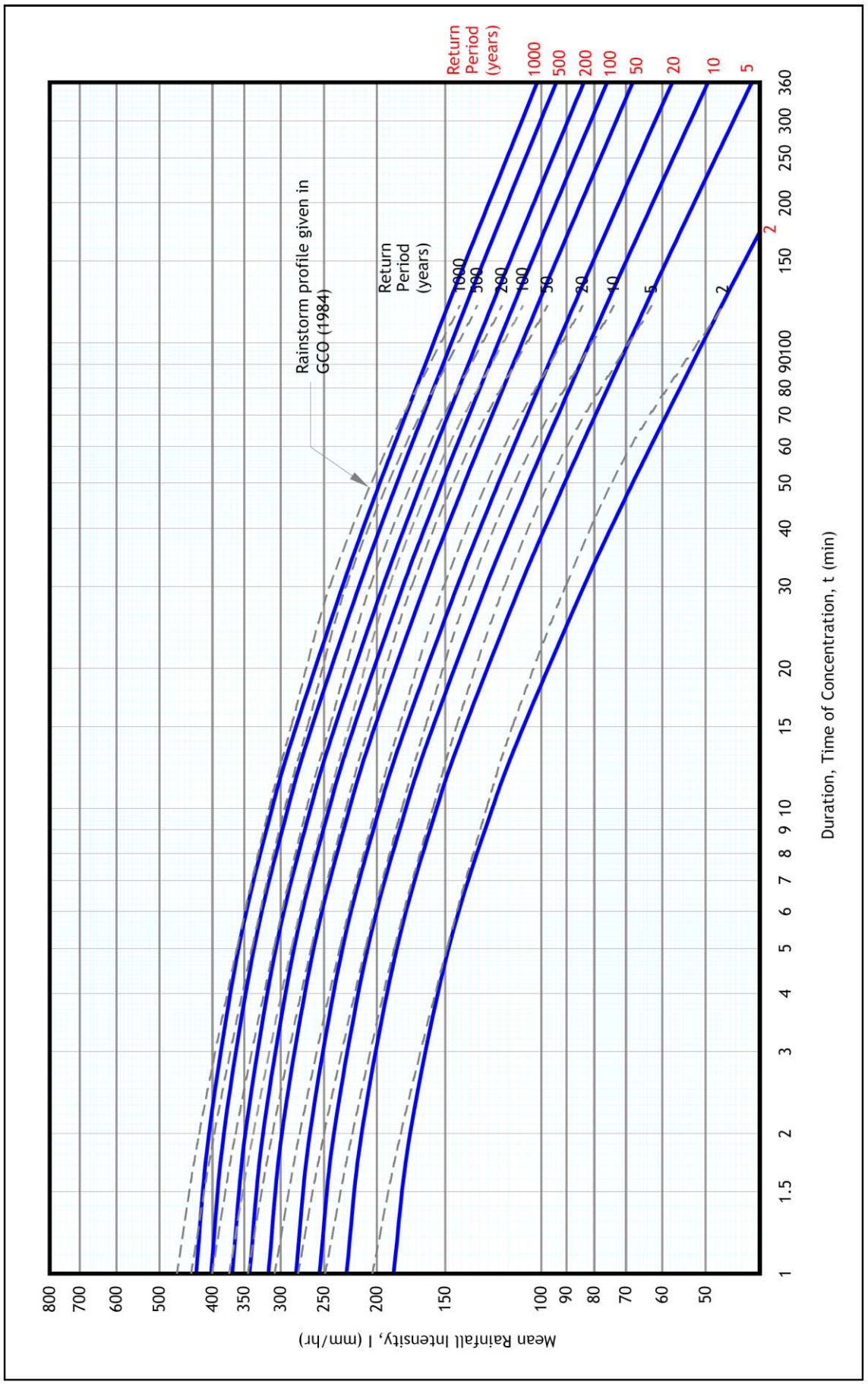

Figure D20 - Raingauge K01 at Civil Engineering and Development Building, 101 Princess Margaret Road

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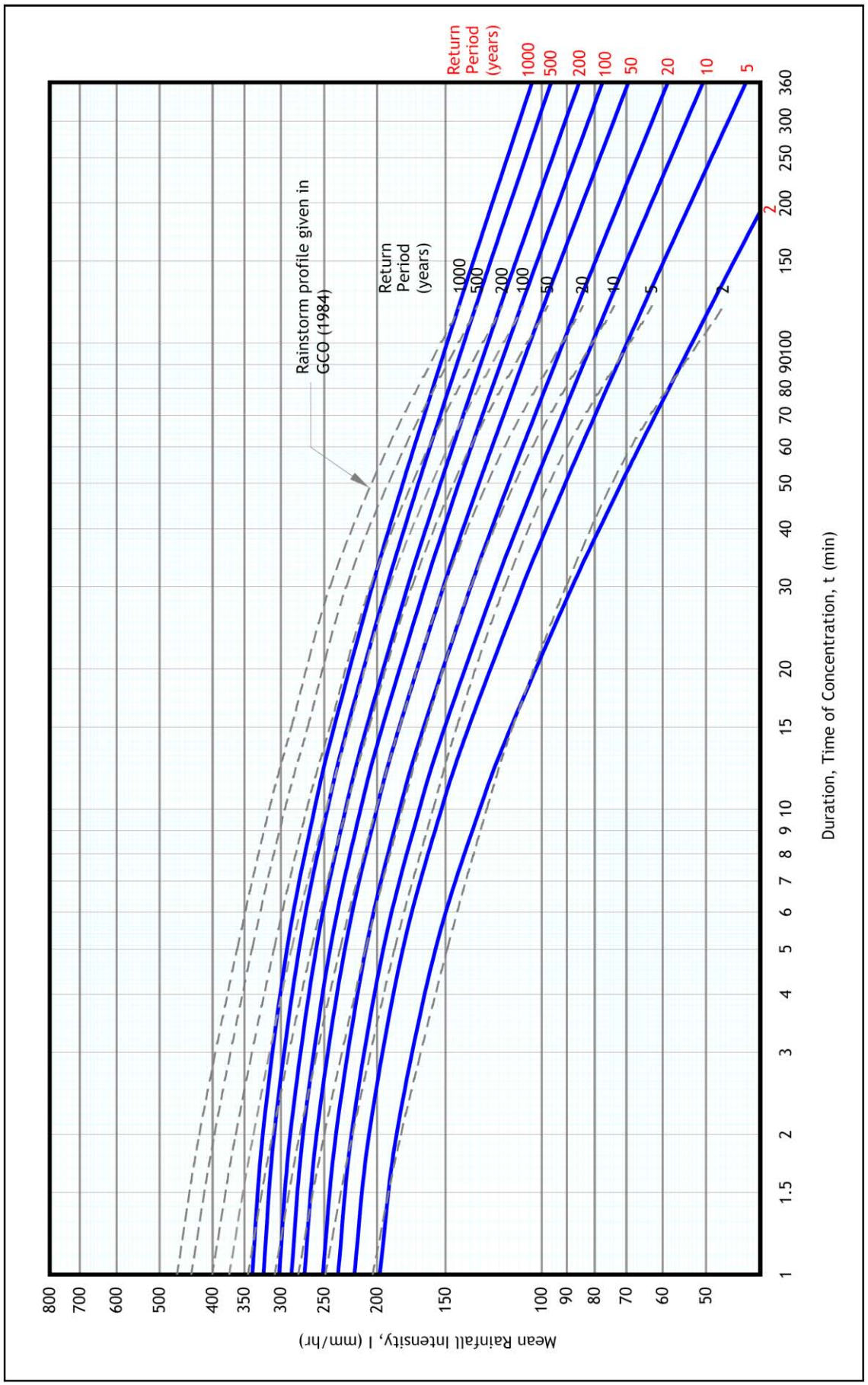

Figure D21 - Raingauge K02 at Block 25, Lung Cheung Court, 15-17 Broadcast Drive

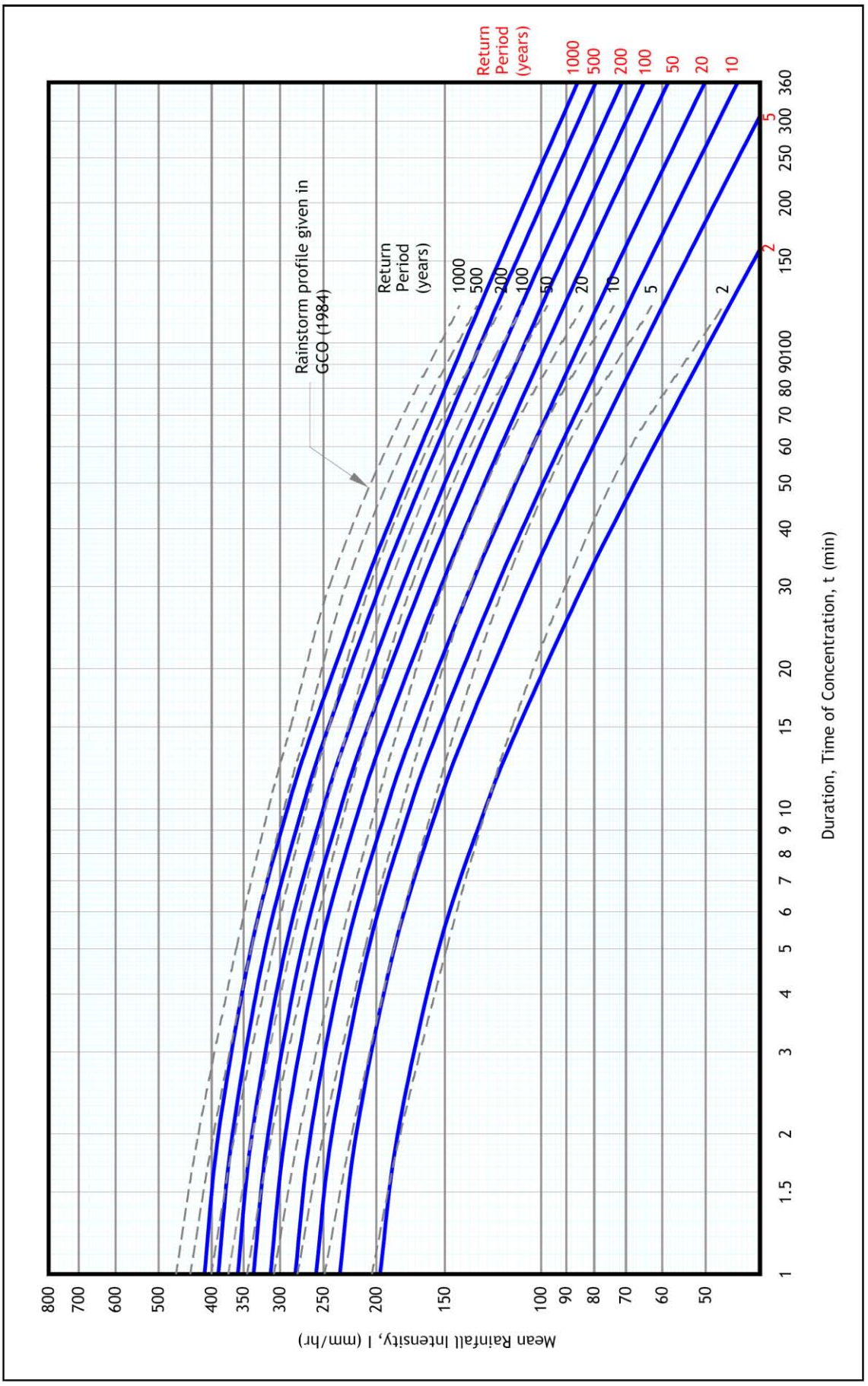

Figure D22 - Raingauge K03 at PMG Radio Monitoring Station, Hong Ning Road

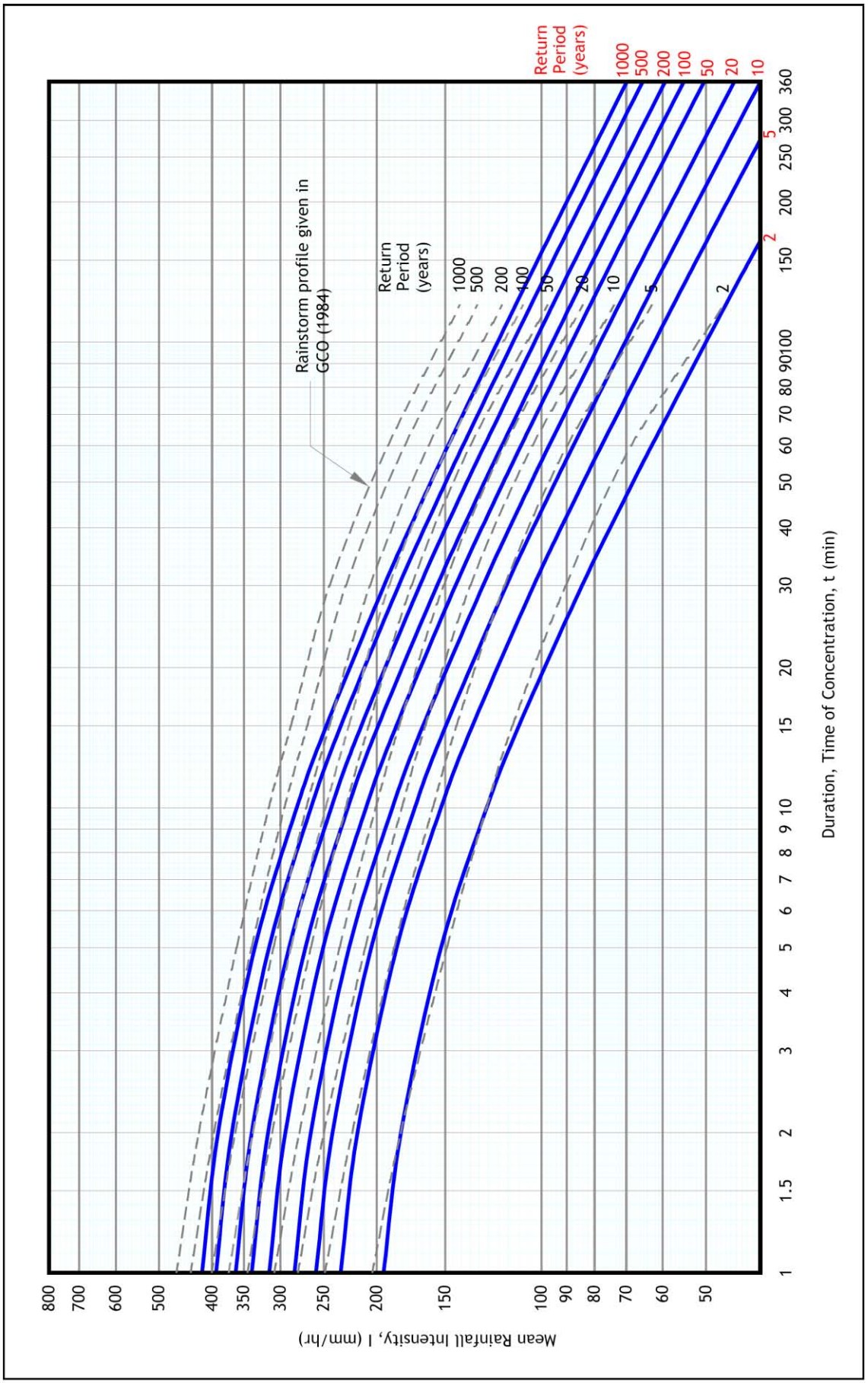

Figure D23 - Raingauge K04 at Lee Cheung House, Shun Lee Estate, Lee On Road

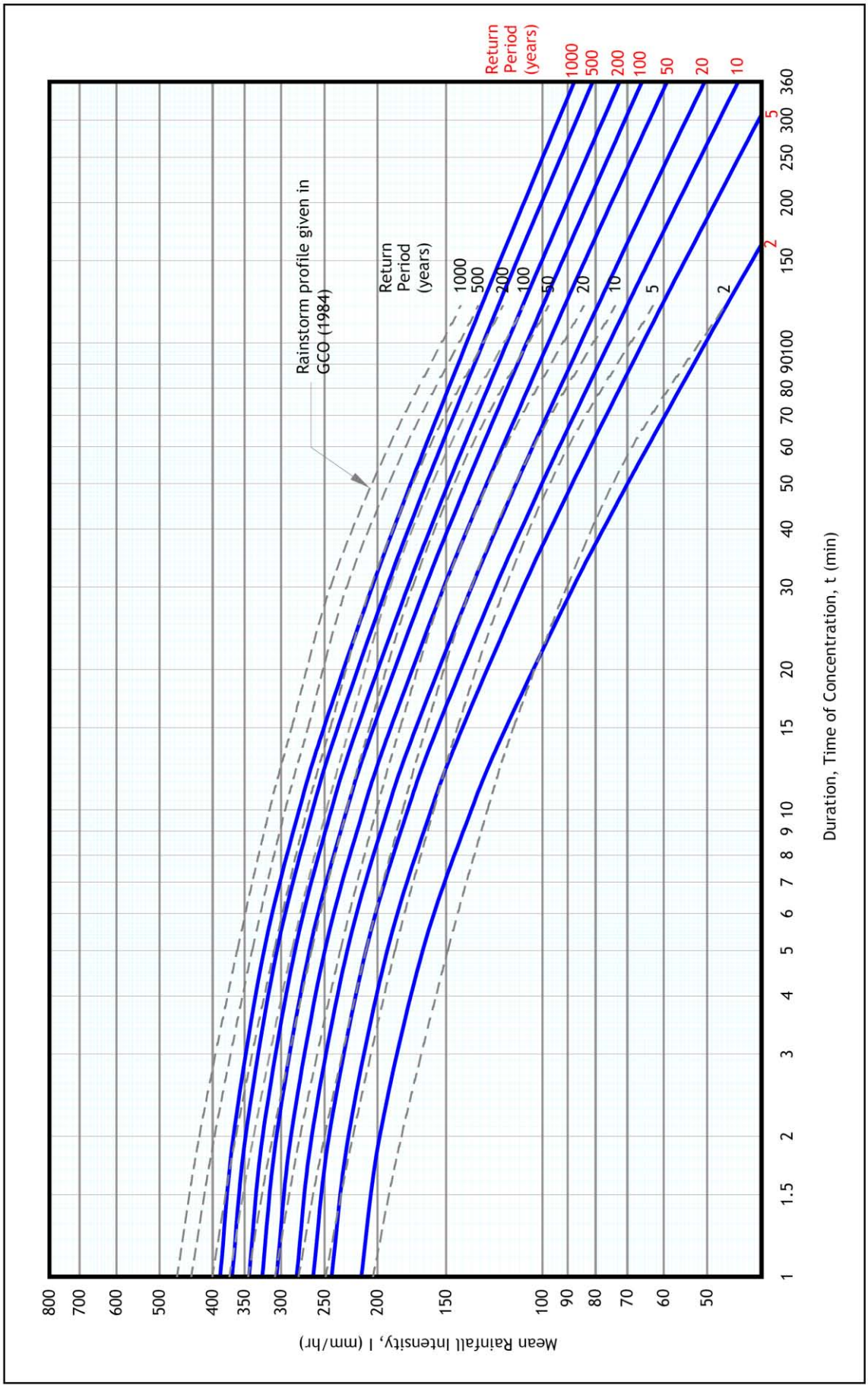

Figure D24 - Raingauge K05 at Ko Chi House, Ko Yee Estate

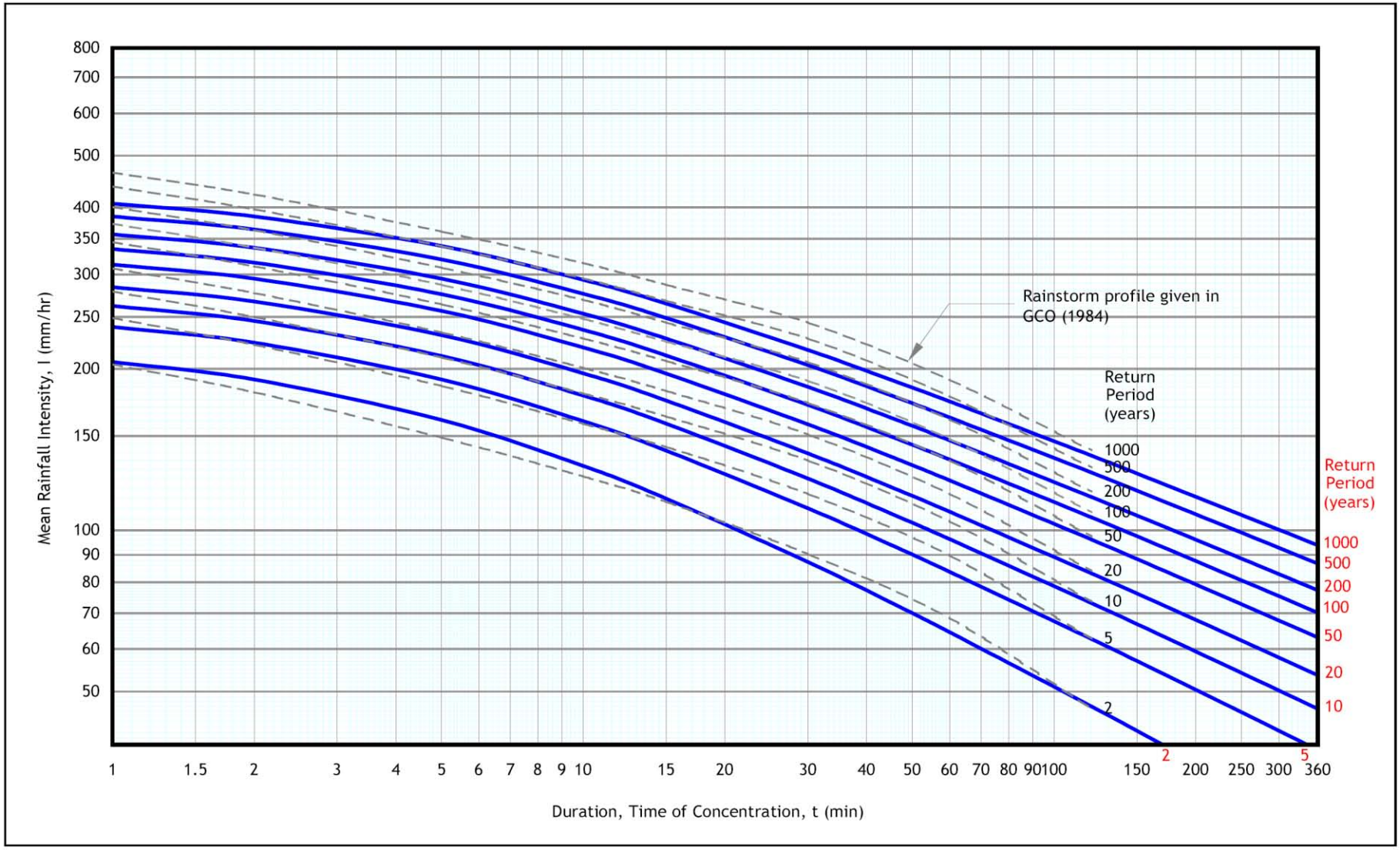

Figure D25 - Raingauge K06 at Carnation House, So Uk Estate

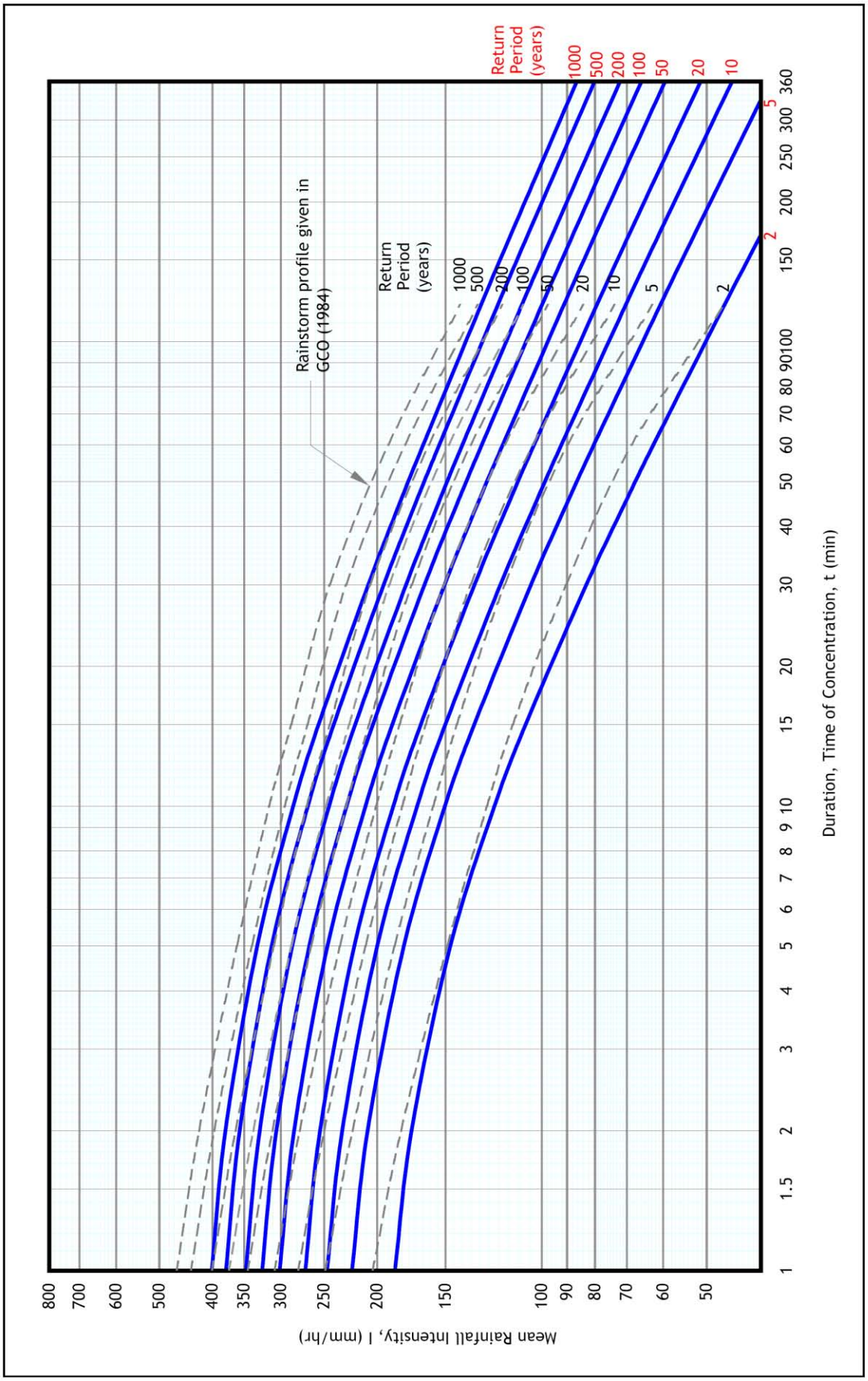

Figure D26 - Raingauge K07 at Wing C, Ching Tak House, Tsz Ching Estate

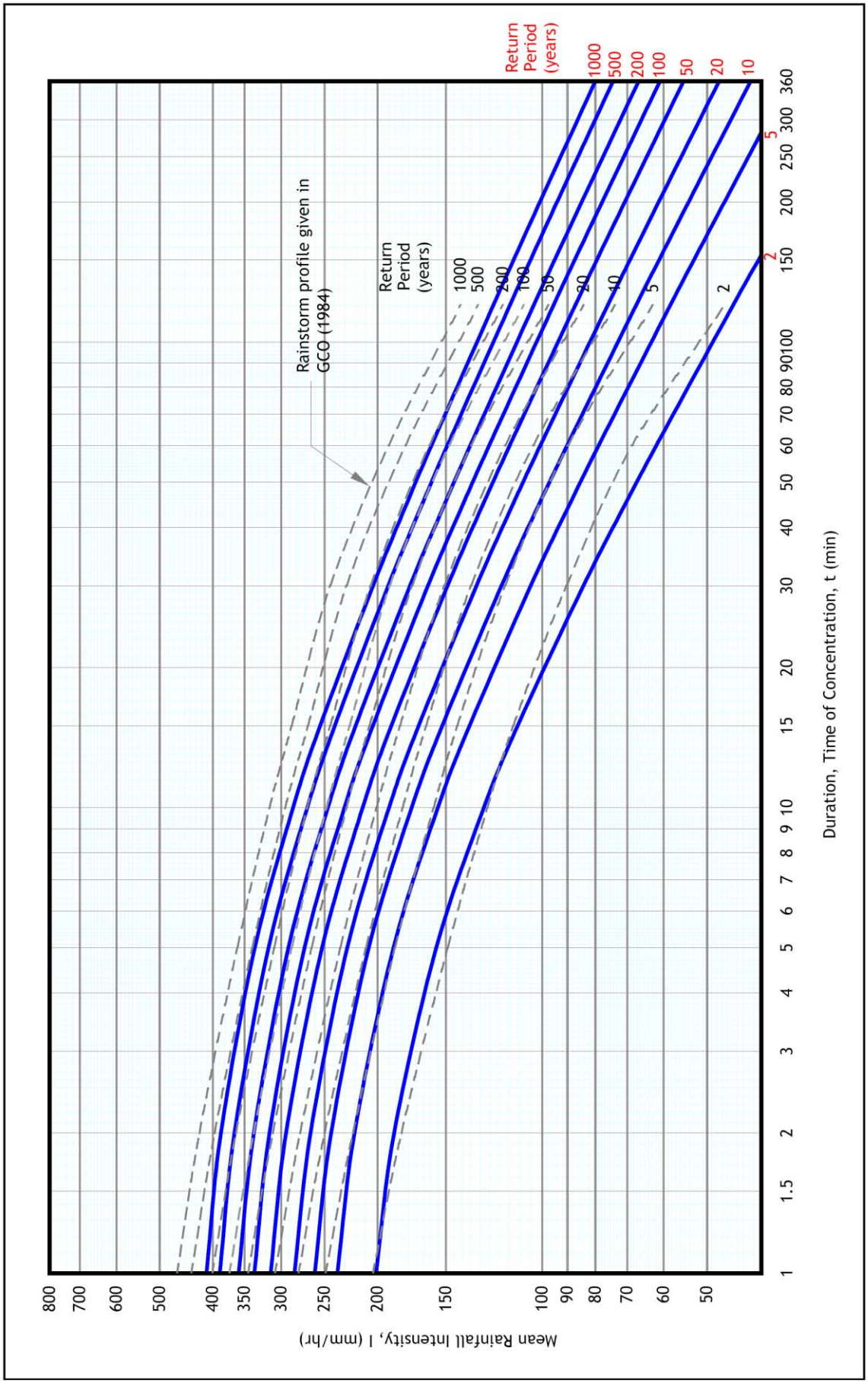

Figure D27 - Raingauge K08 at FDBWA Szeto Ho Secondary School, 7 Kai Tin Road

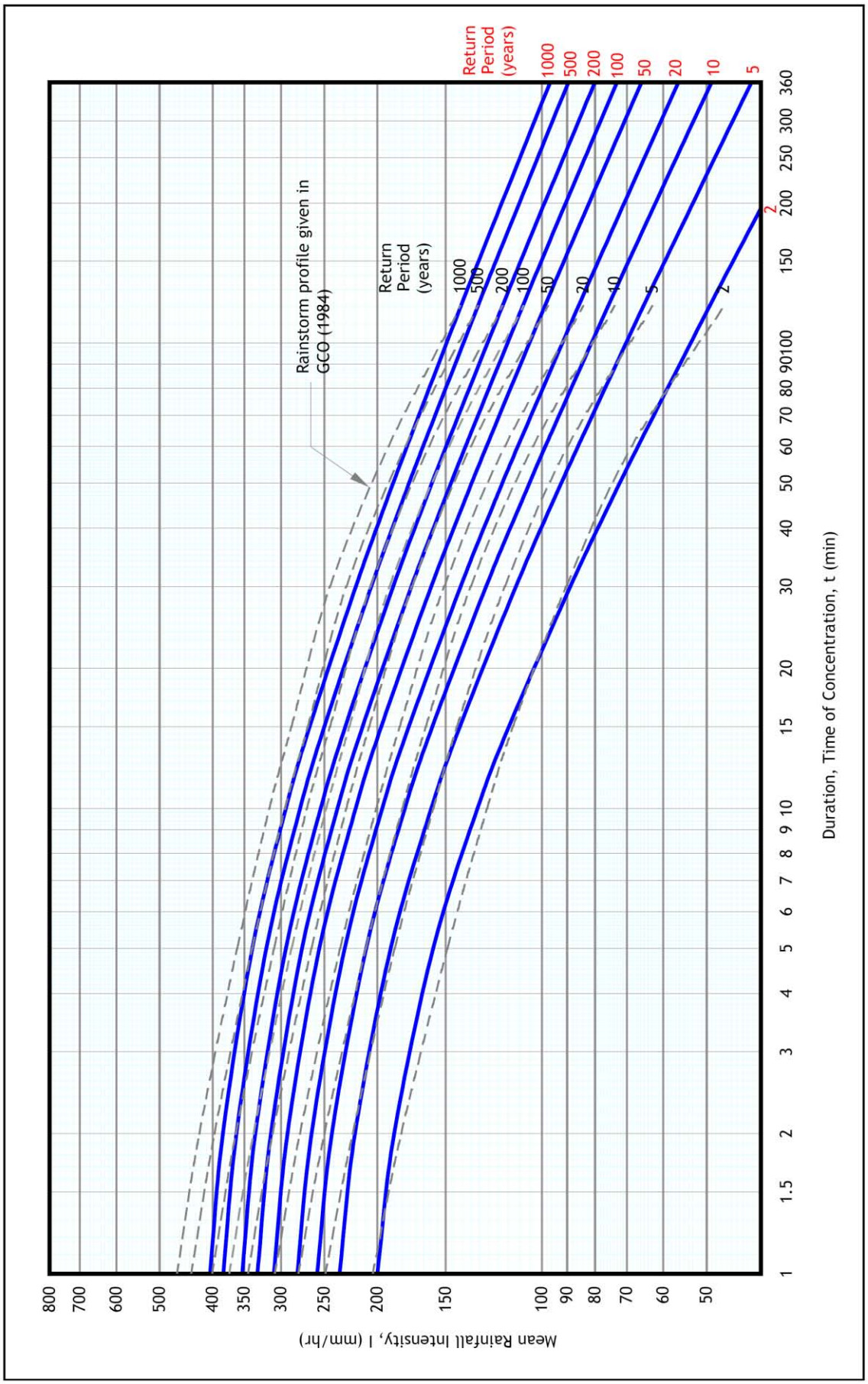

Figure D28 - Raingauge N01 at Administration Block, Shatin Water Treatment Works

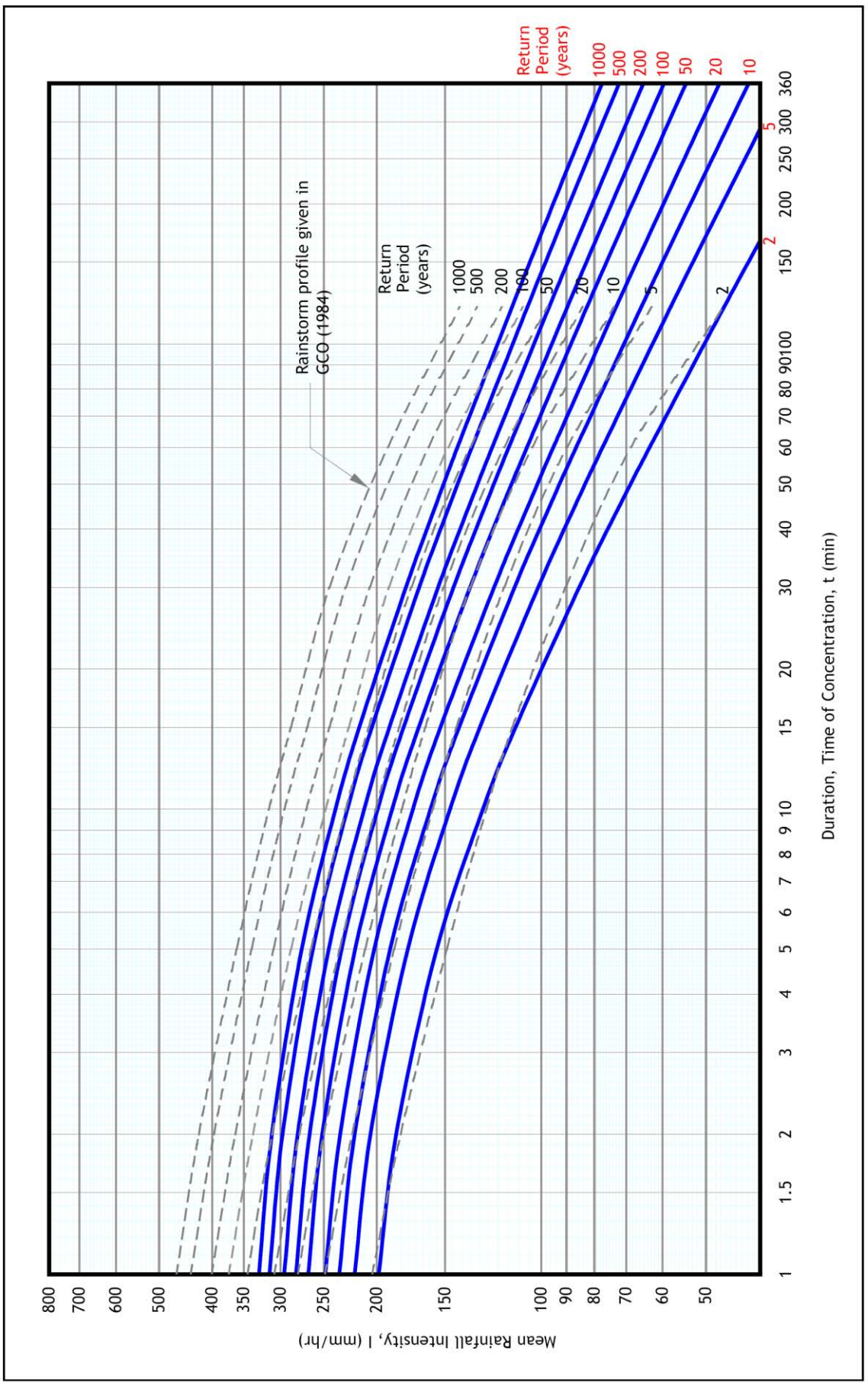

Figure D29 - Raingauge N02 at Shun Wo House, Wo Che Estate

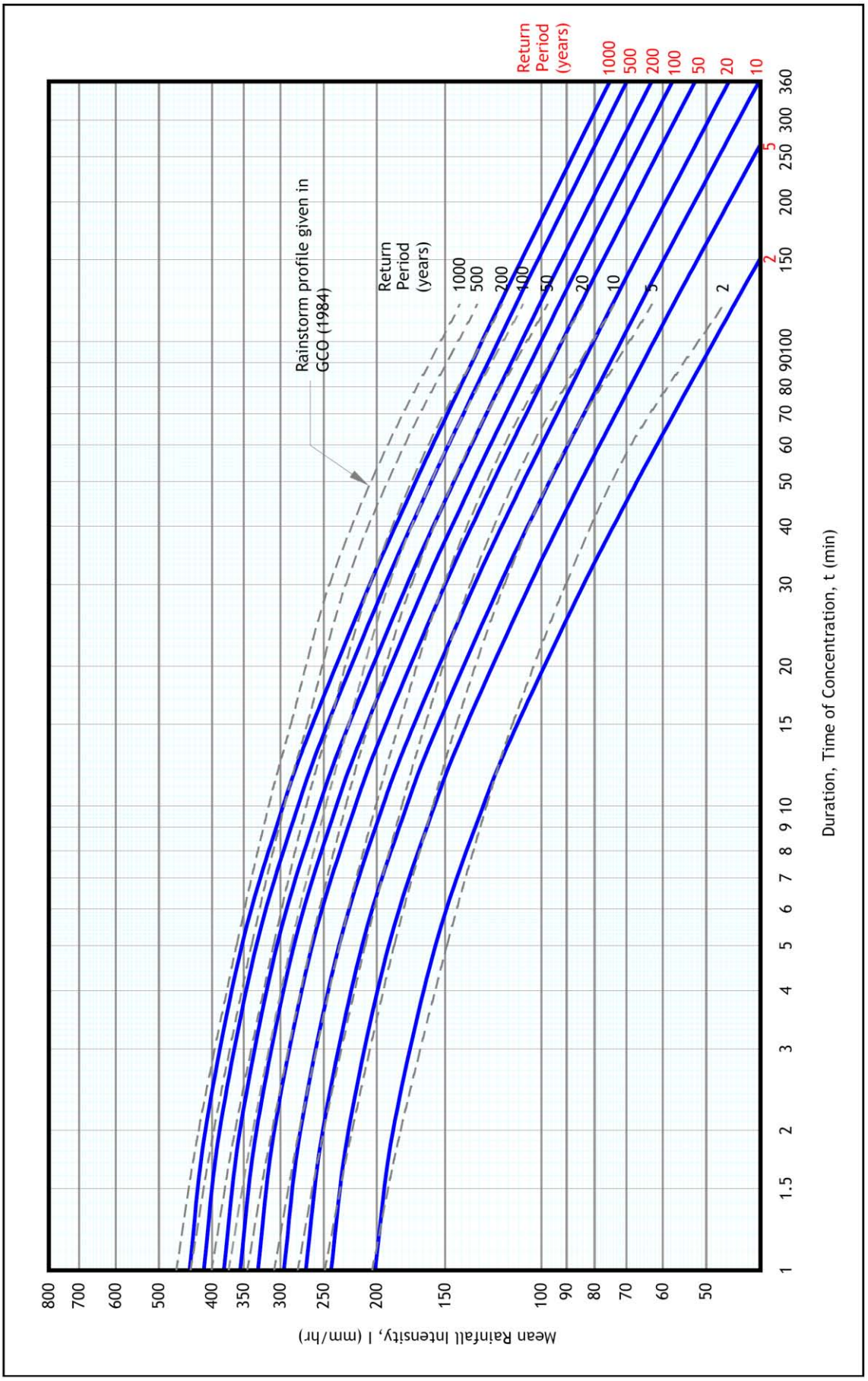

Figure D30 - Raingauge N03 at Tsuen Wan Treatment Works, Shing Mun Road

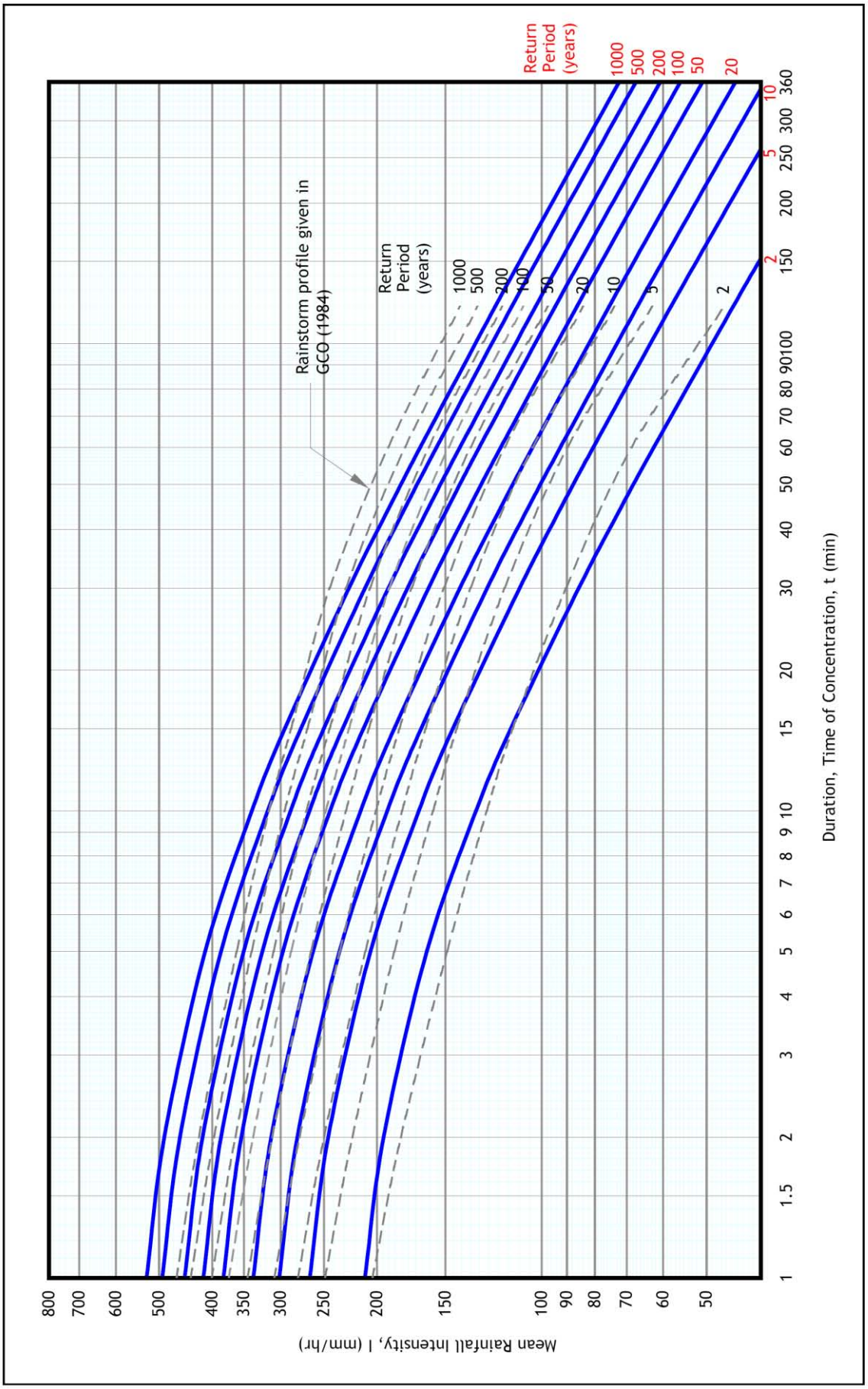

Figure D31 - Raingauge N04 at Kai Kwong Lau, Cho Yiu Estate

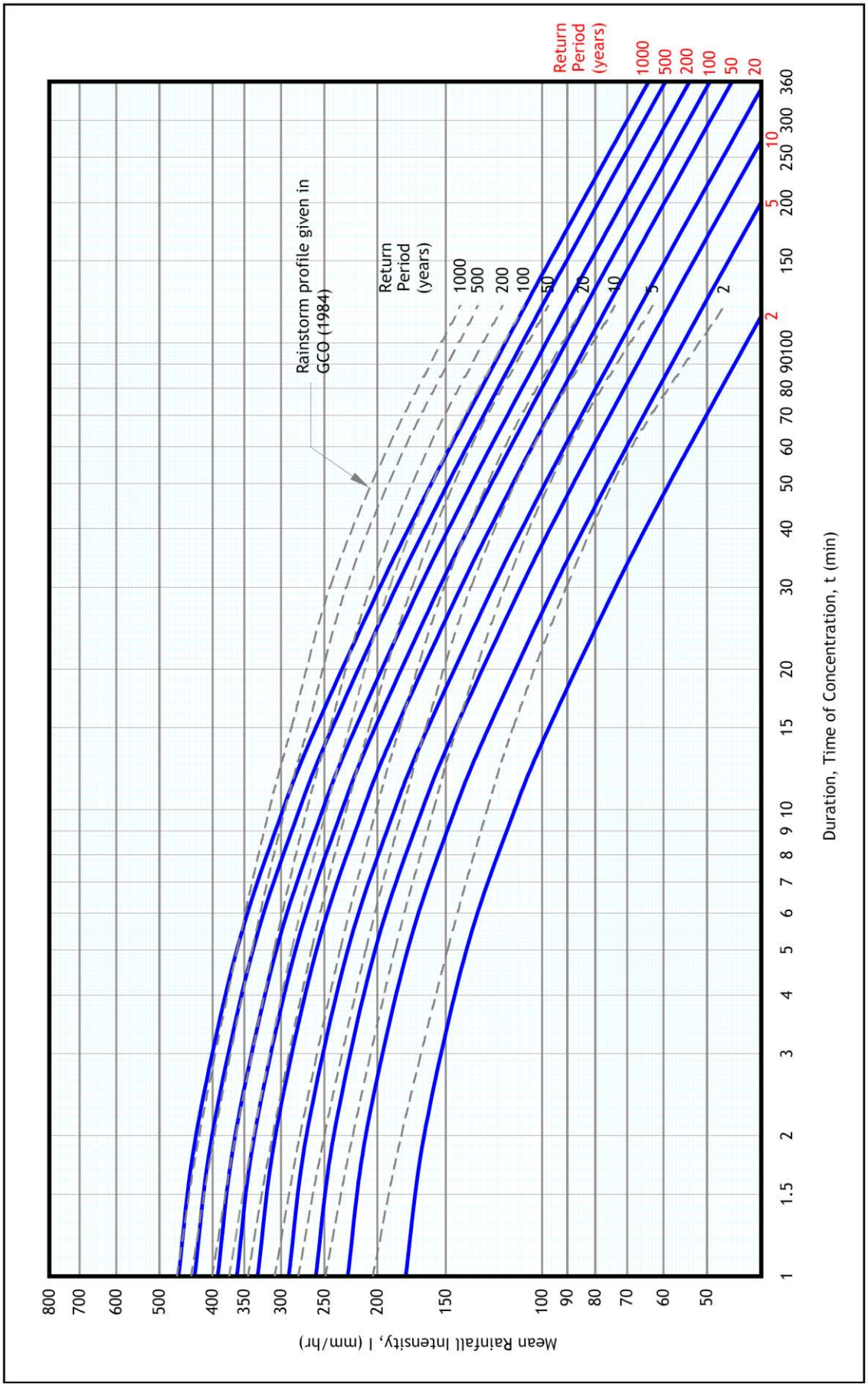

Figure D32 - Raingauge N05 at Cheung Chi House, Cheung Wah Estate

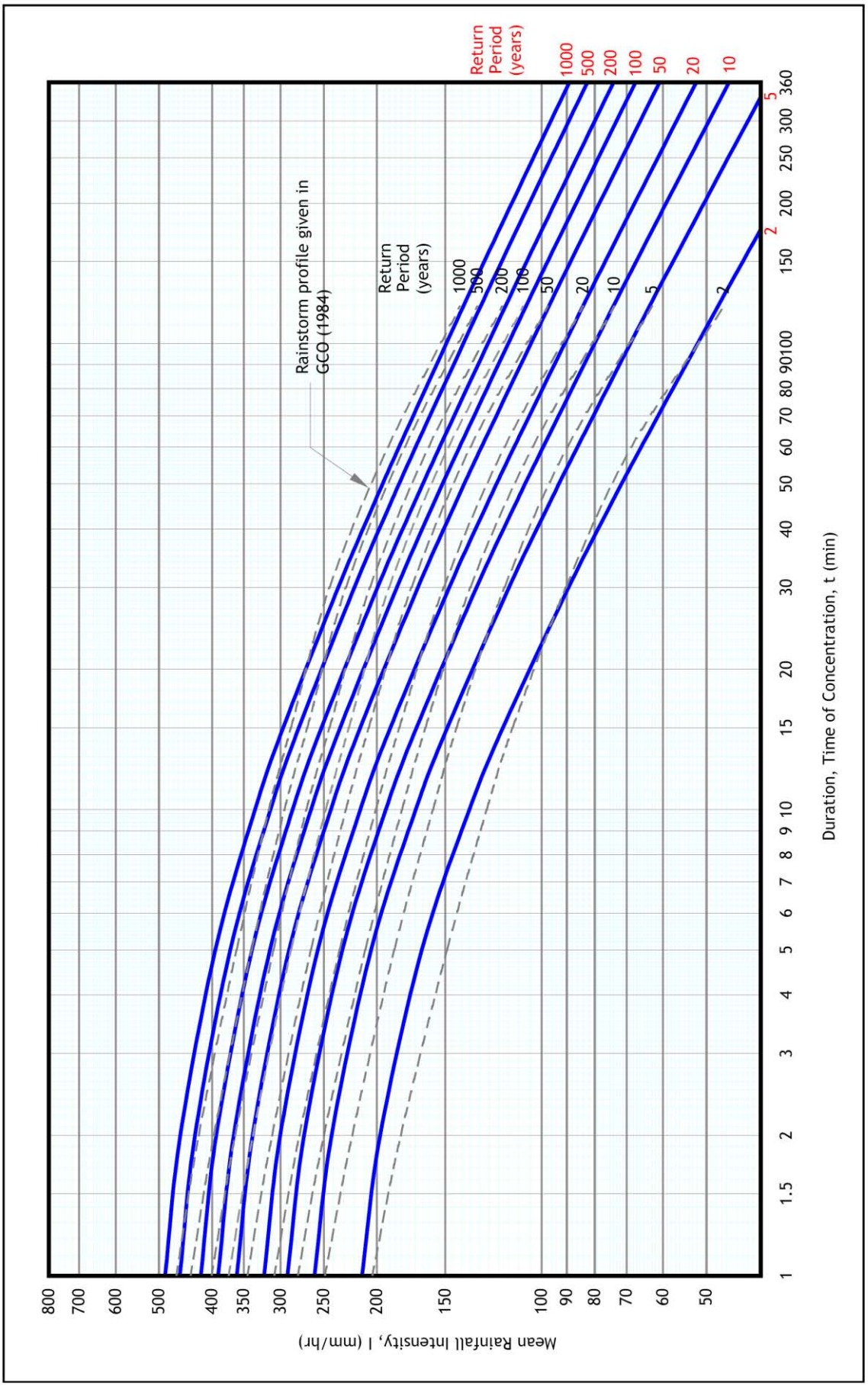

Figure D33 - Raingauge N06 at C.N.E.C. Christian College, 6 Lei Pui Street, Shek Lei

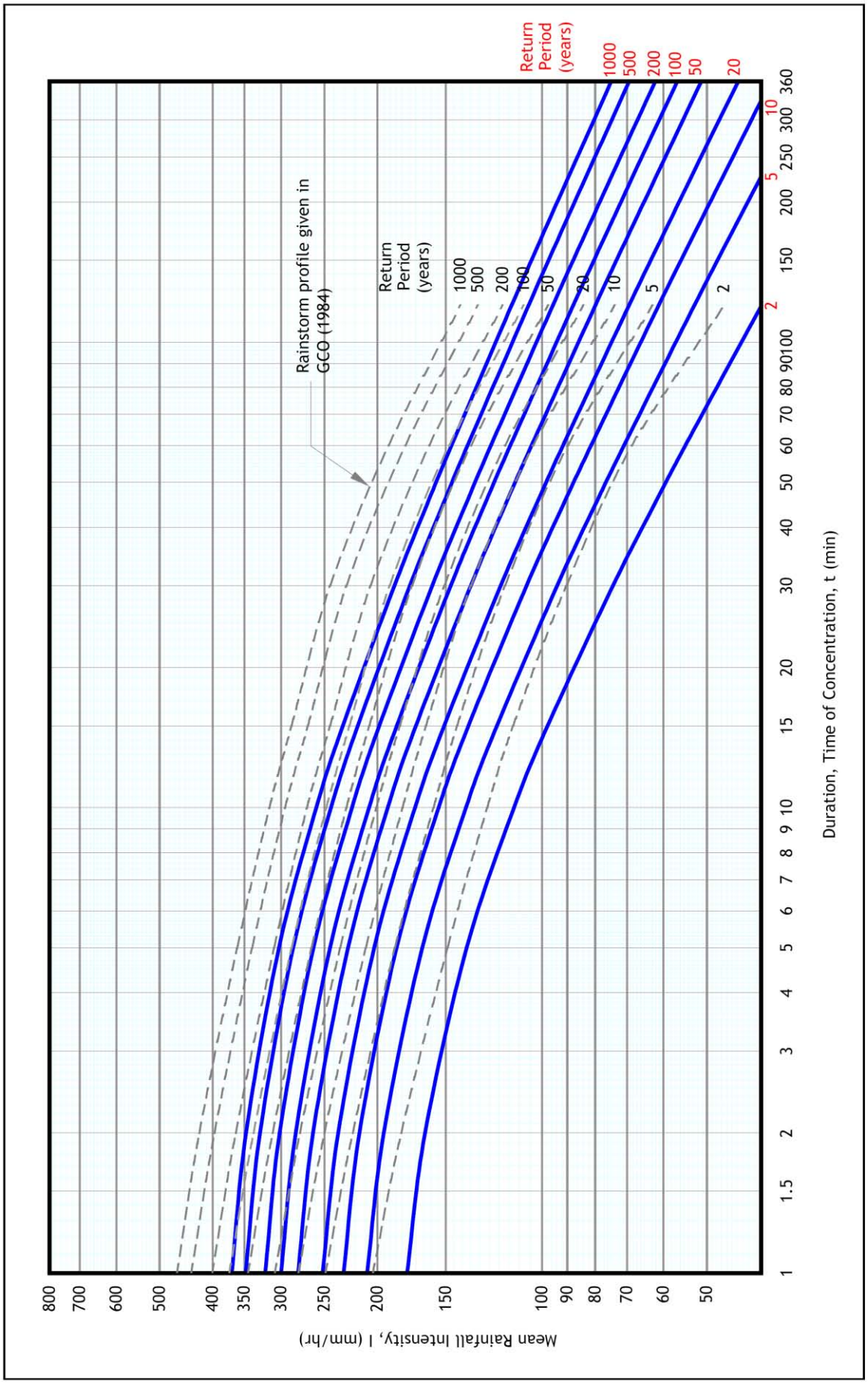

Figure D34 - Raingauge N07 at Tuen Mun Technical Institute, Tsing Wun Road

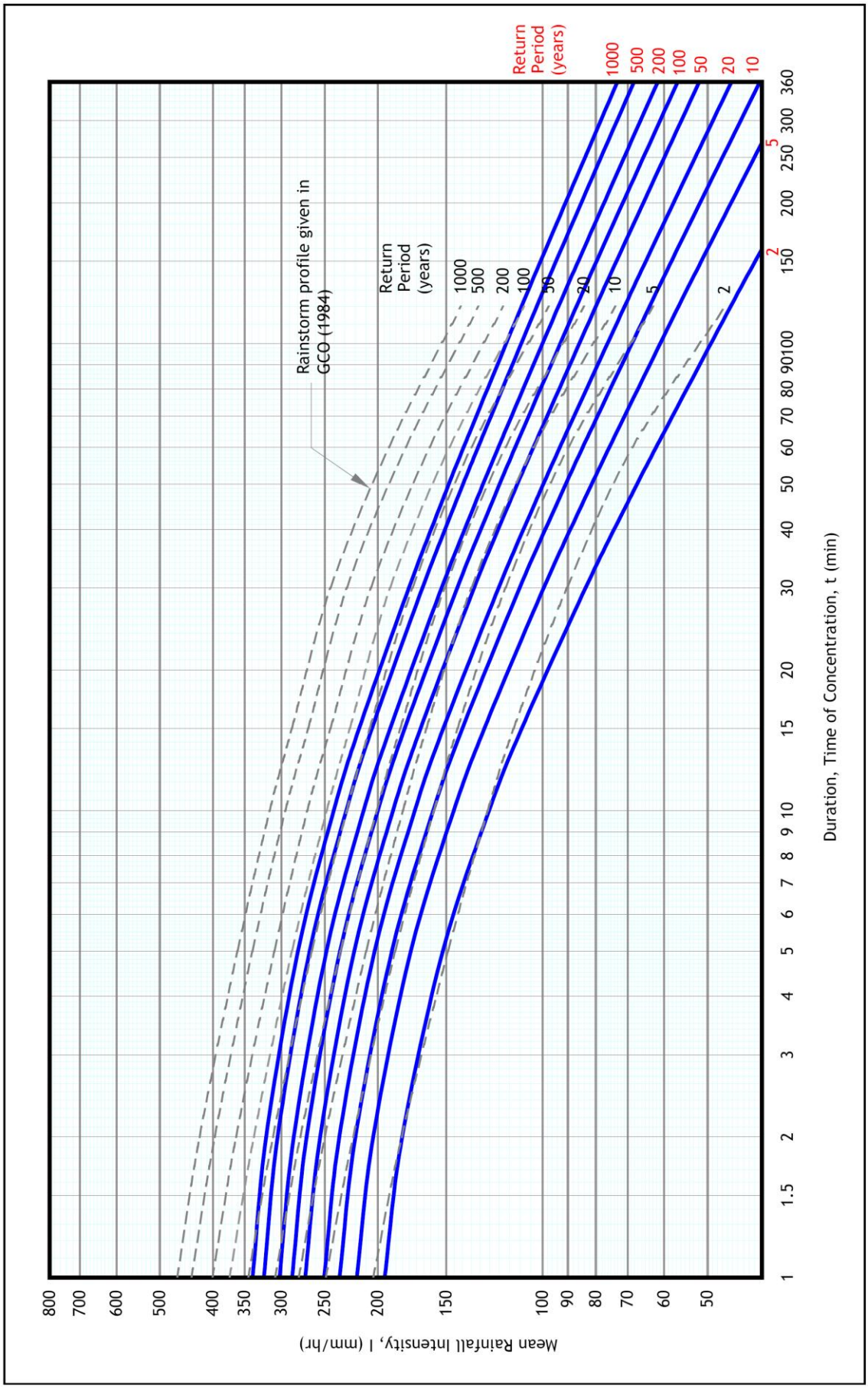

Figure D35 - Raingauge N08 at Staff Quarter (Block C), Pik Uk Prison, Clearwater Bay

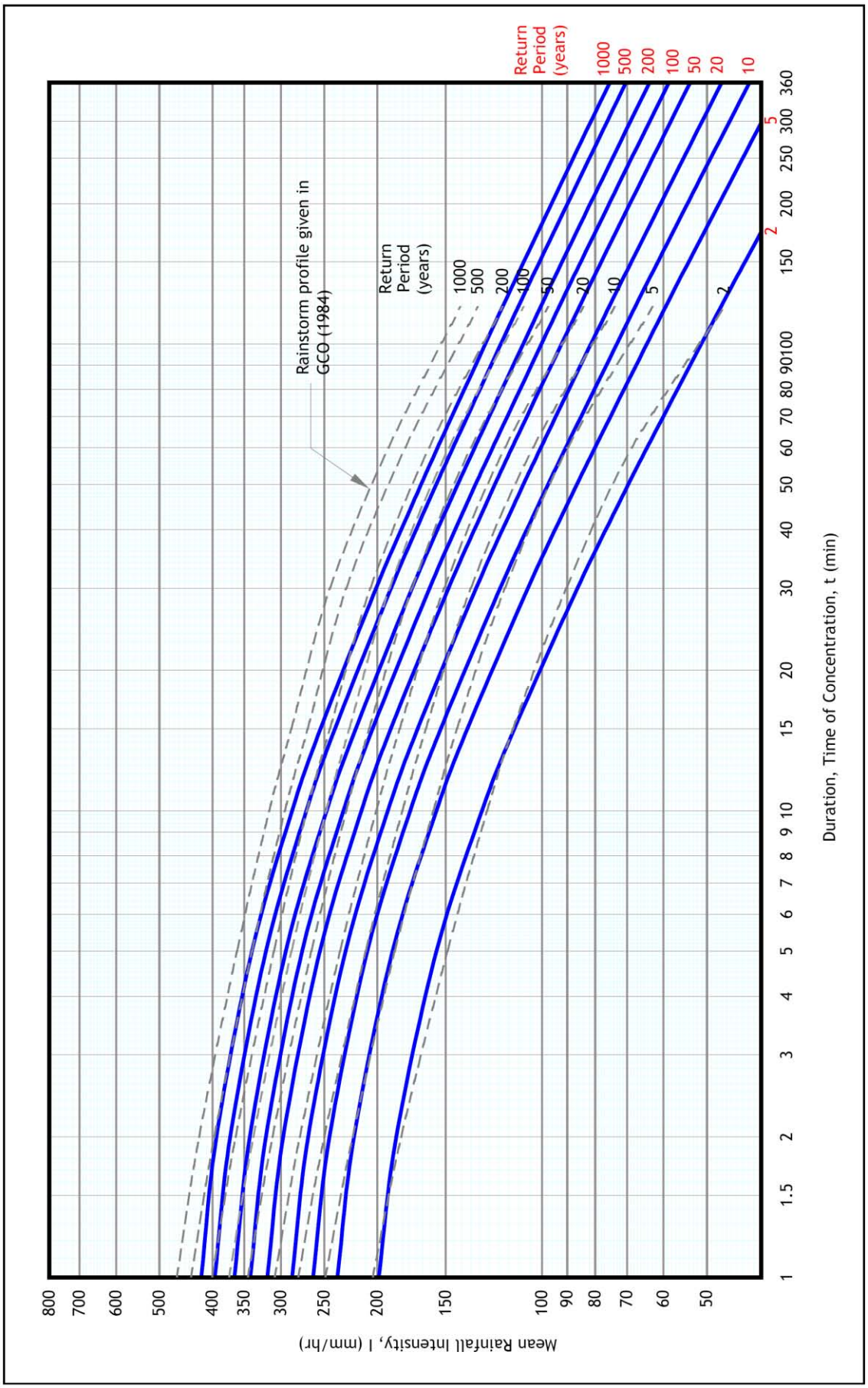

Figure D36 - Raingauge N09 at Meteorology Laboratory, Chinese University, Tai Po Road

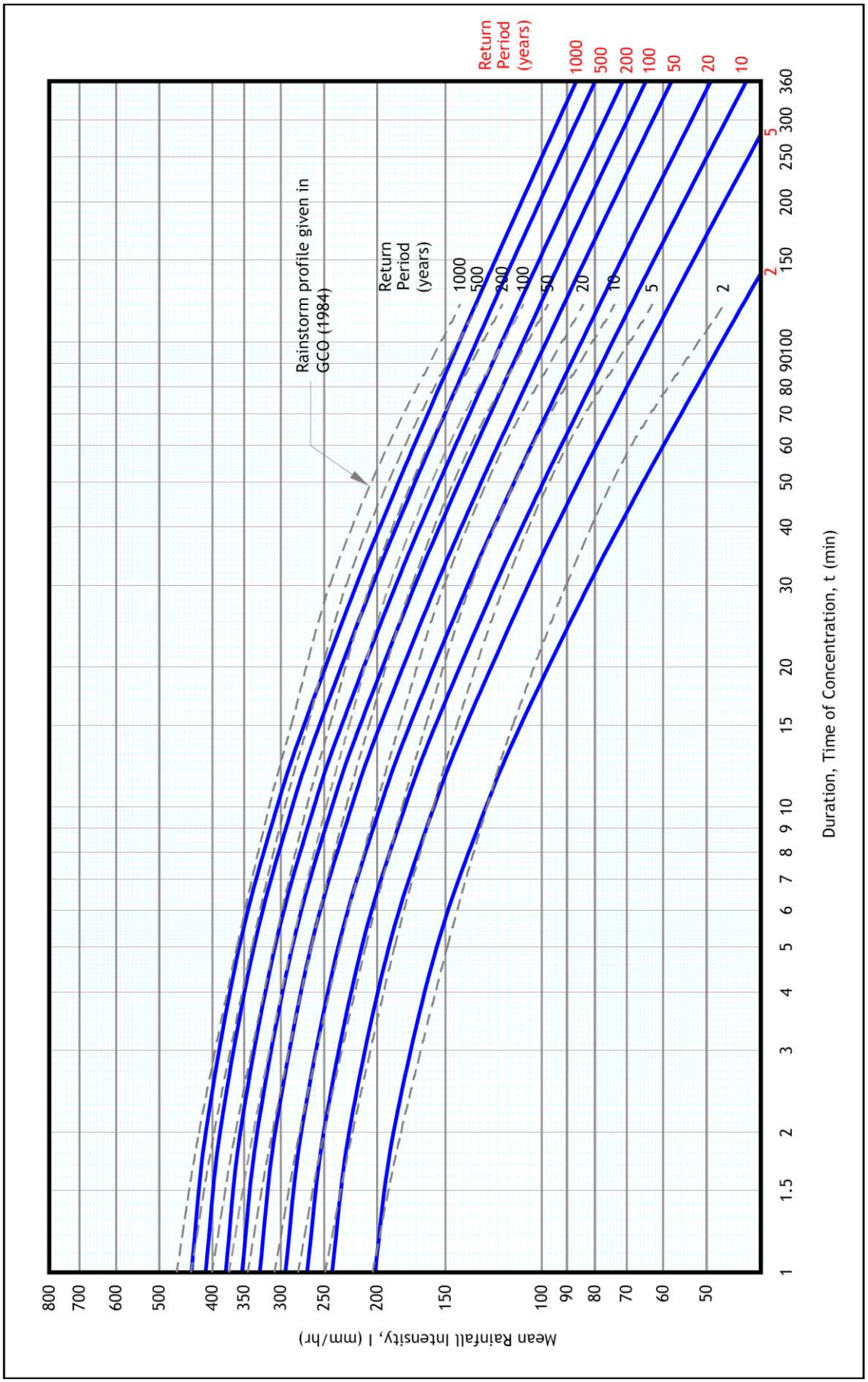

Figure D37 - Raingauge N10 at Emmanuel Primary School, 13 Miles, Castle Peak Road

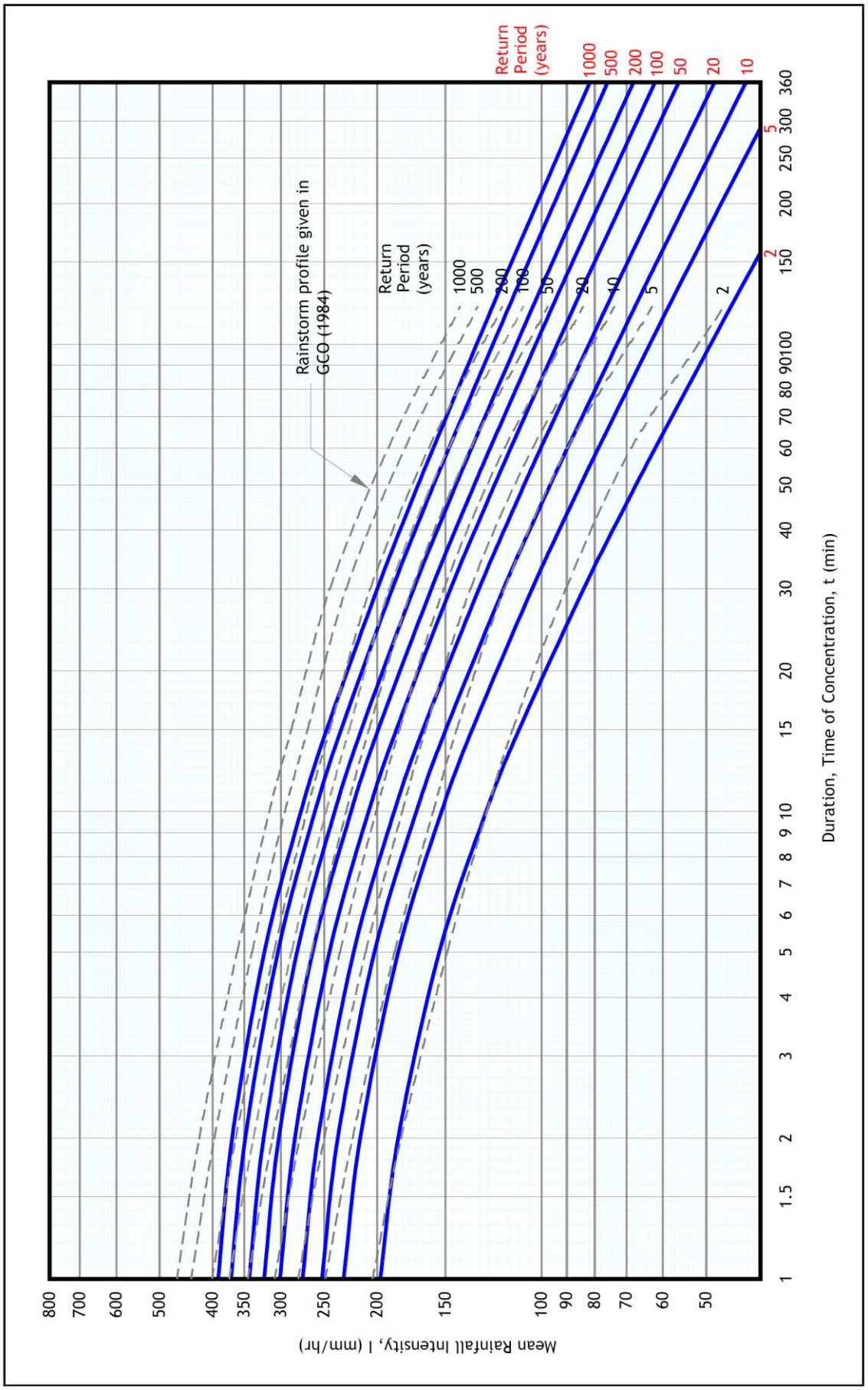

Figure D38 - Raingauge N11 at Tsing Yi South Fire Station, 100 Tsing Yi Road

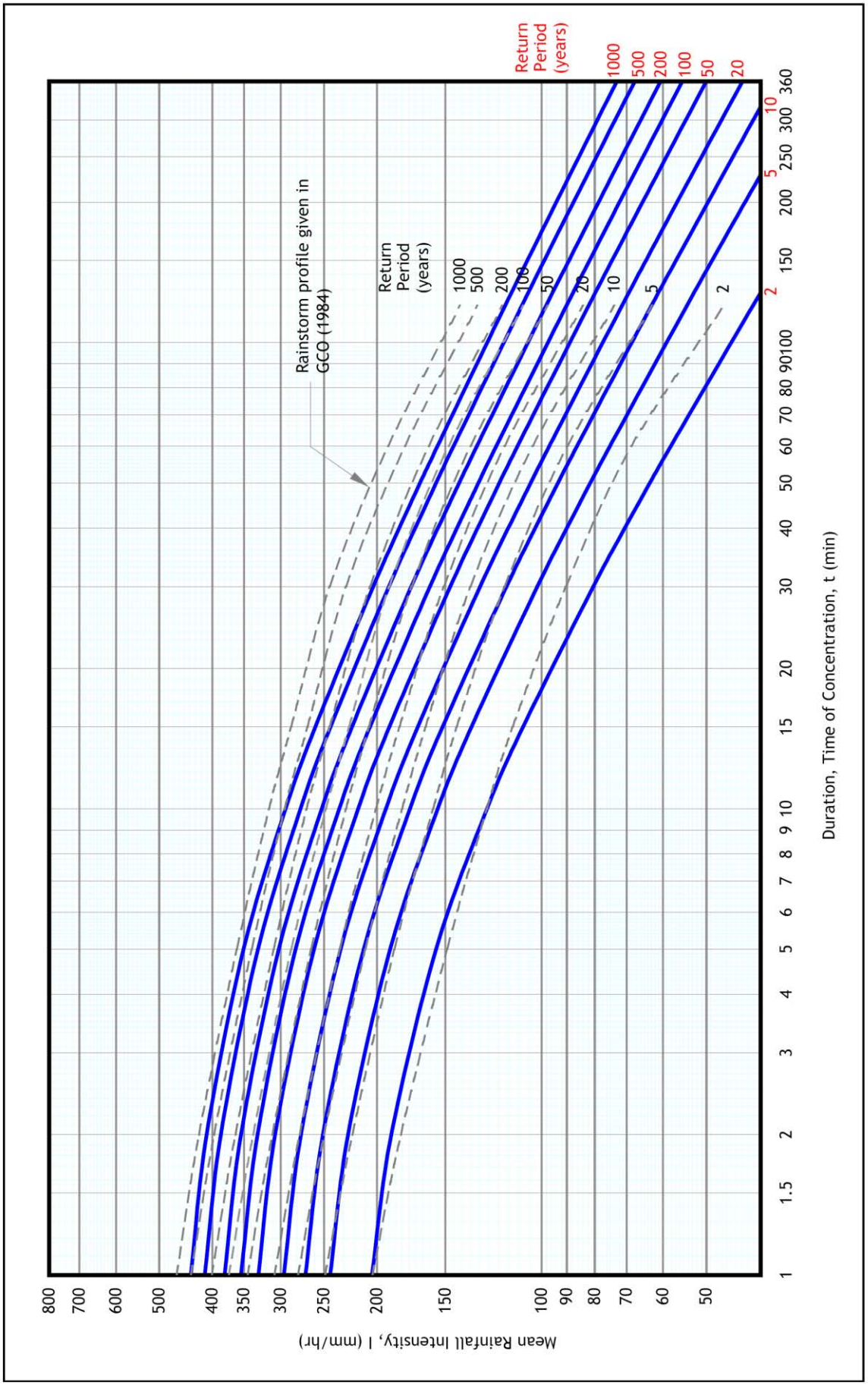

Figure D39 - Raingauge N12 at Hong Shui House, Shui Pin Wai Estate

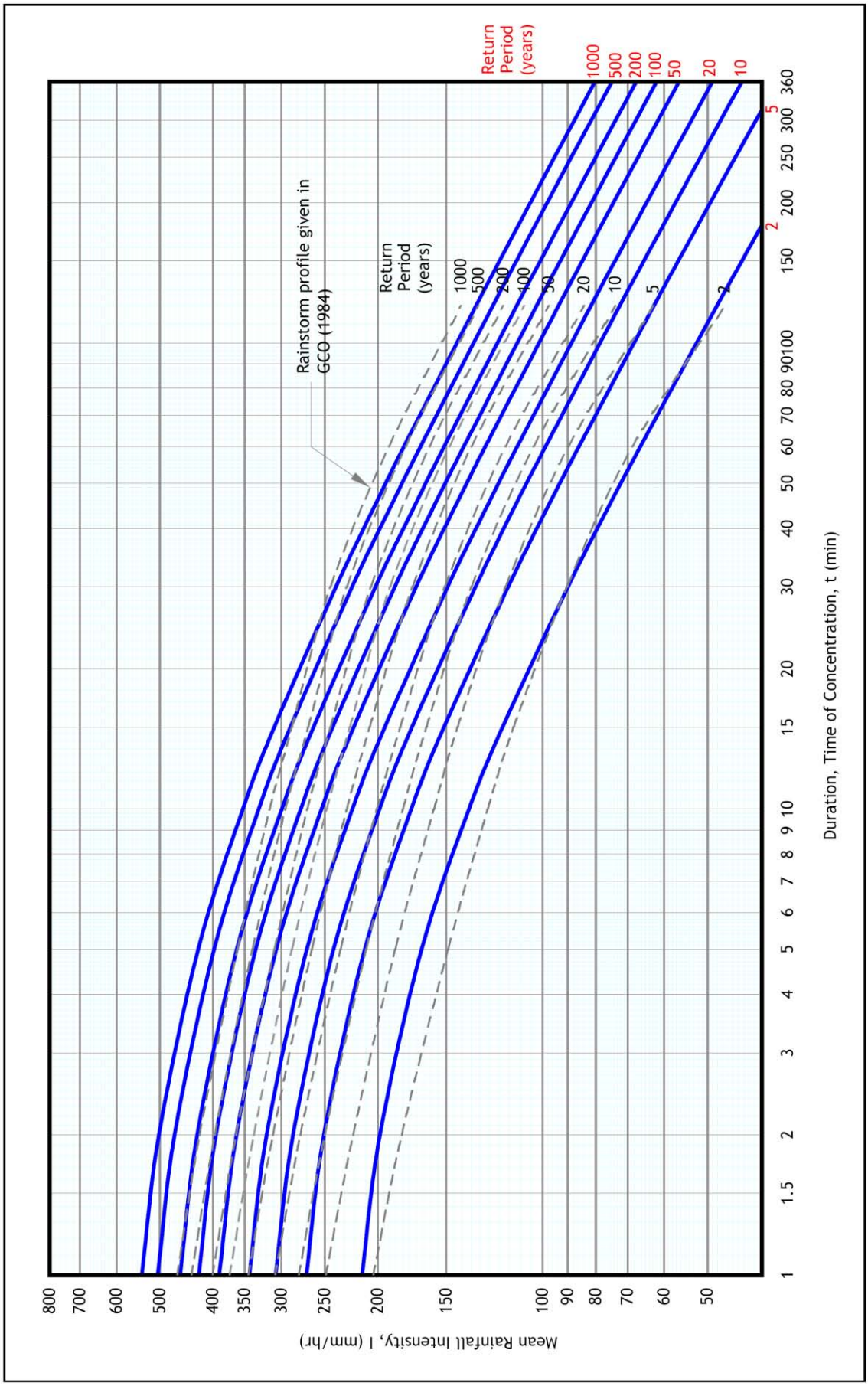

Figure D40 - Raingauge N13 at Yuen Ng Fan, High Island Reservoir

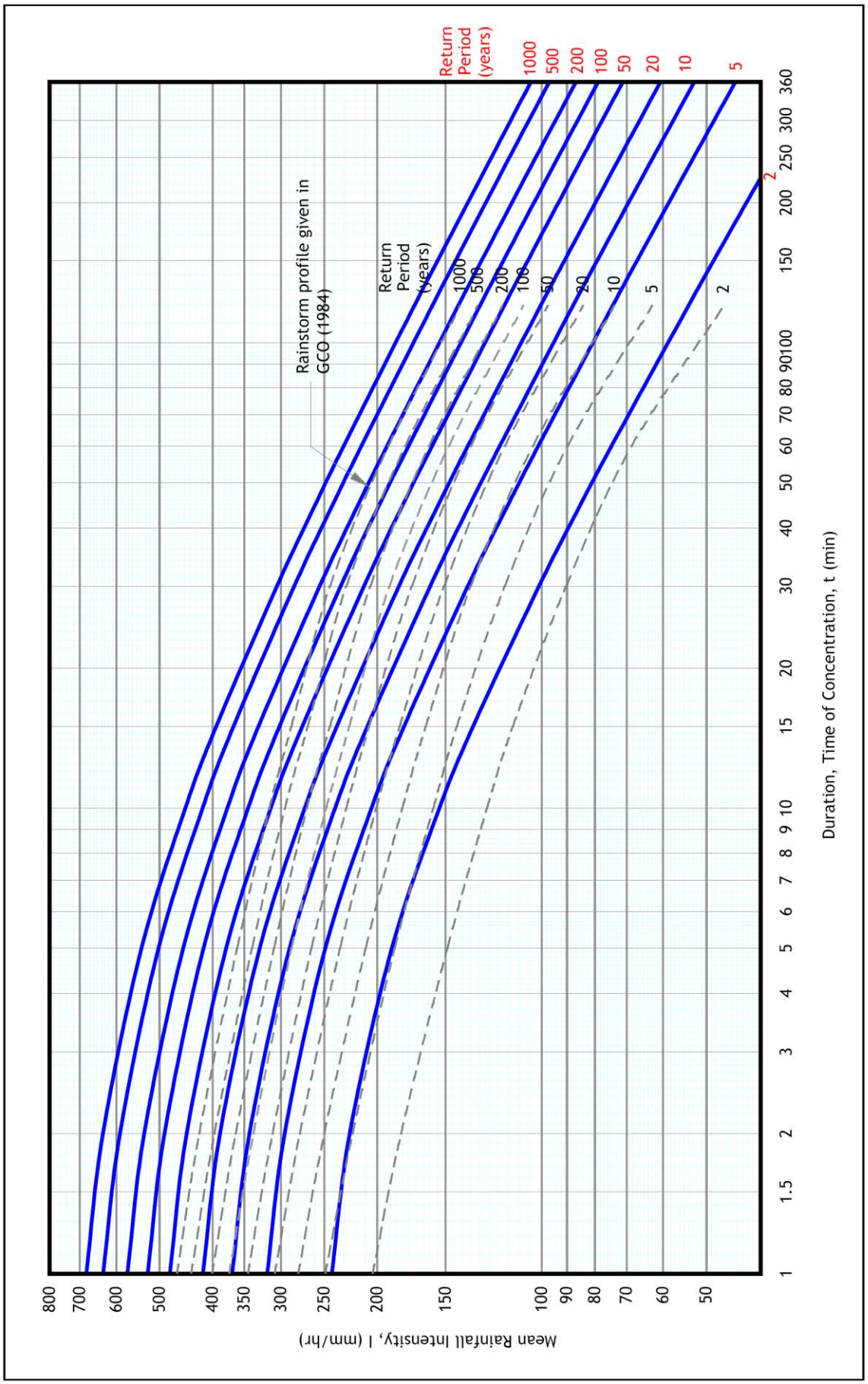

Figure D41 - Raingauge N14 at Wireless Station, Tai Mo Shan, Tai Mo Shan Road

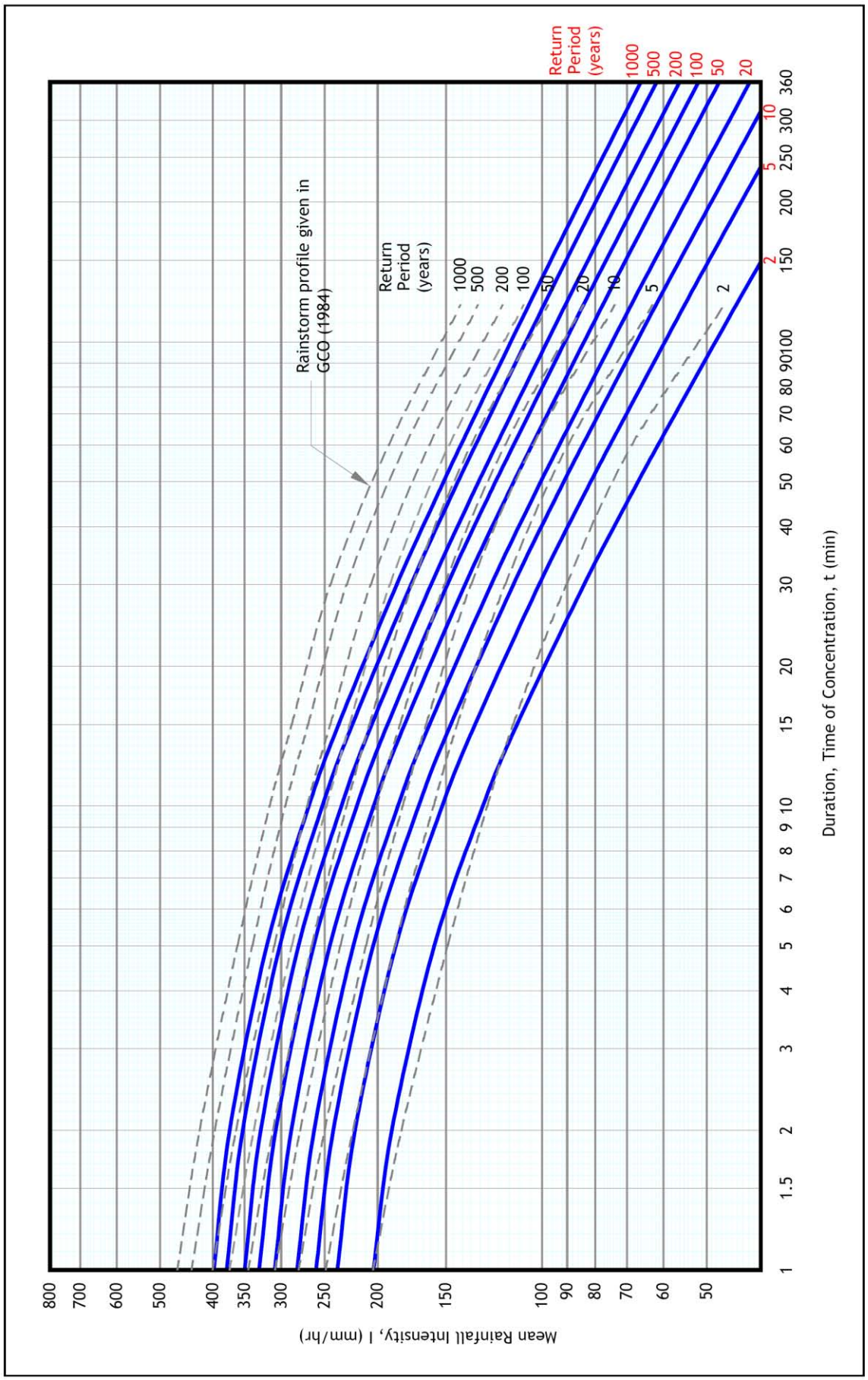

Figure D42 - Raingauge N15 at Sung Tsun Secondary School, Yau Ma Po, Po Tung Road

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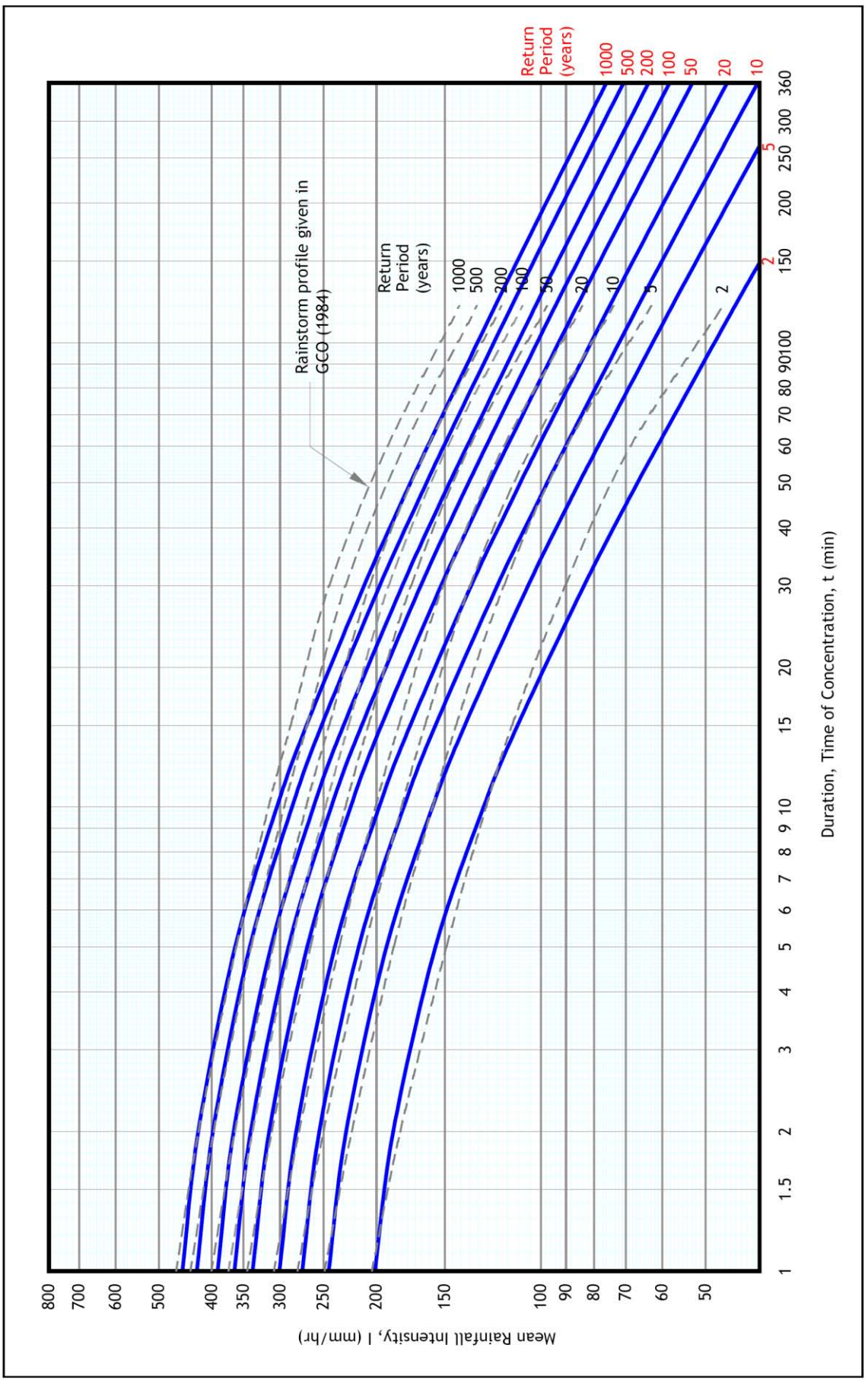

Figure D43 - Raingauge N16 at Tak Chi House, Hau Tak Estate

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Appendix E

Plots of Raingauge-specific IDF Curves with the Same Return Periods

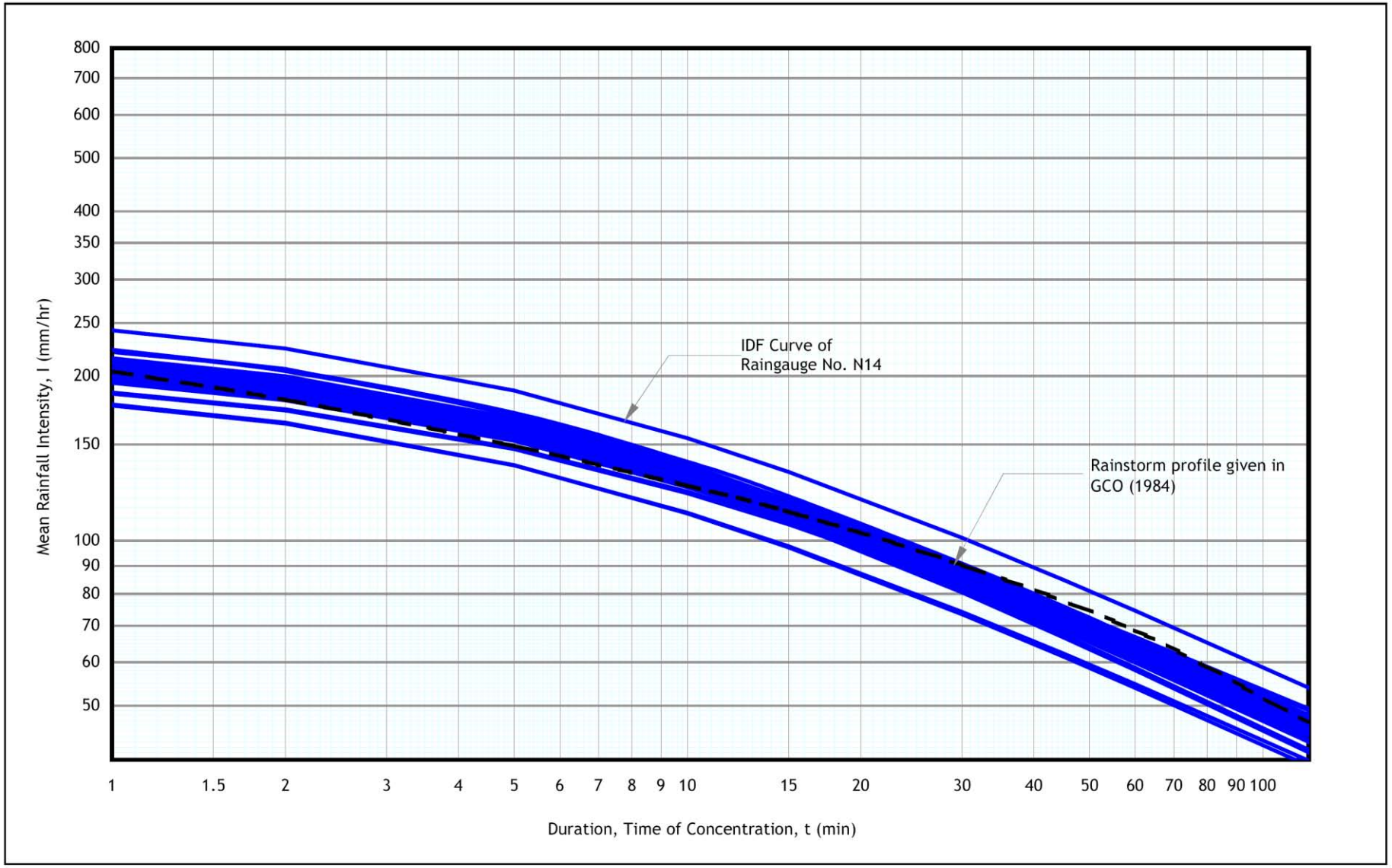

Figure E1 - Raingauge-specific IDF Curves with Return Period of 2 years

Figure E2 - Raingauge-specific IDF Curves with Return Period of 5 years

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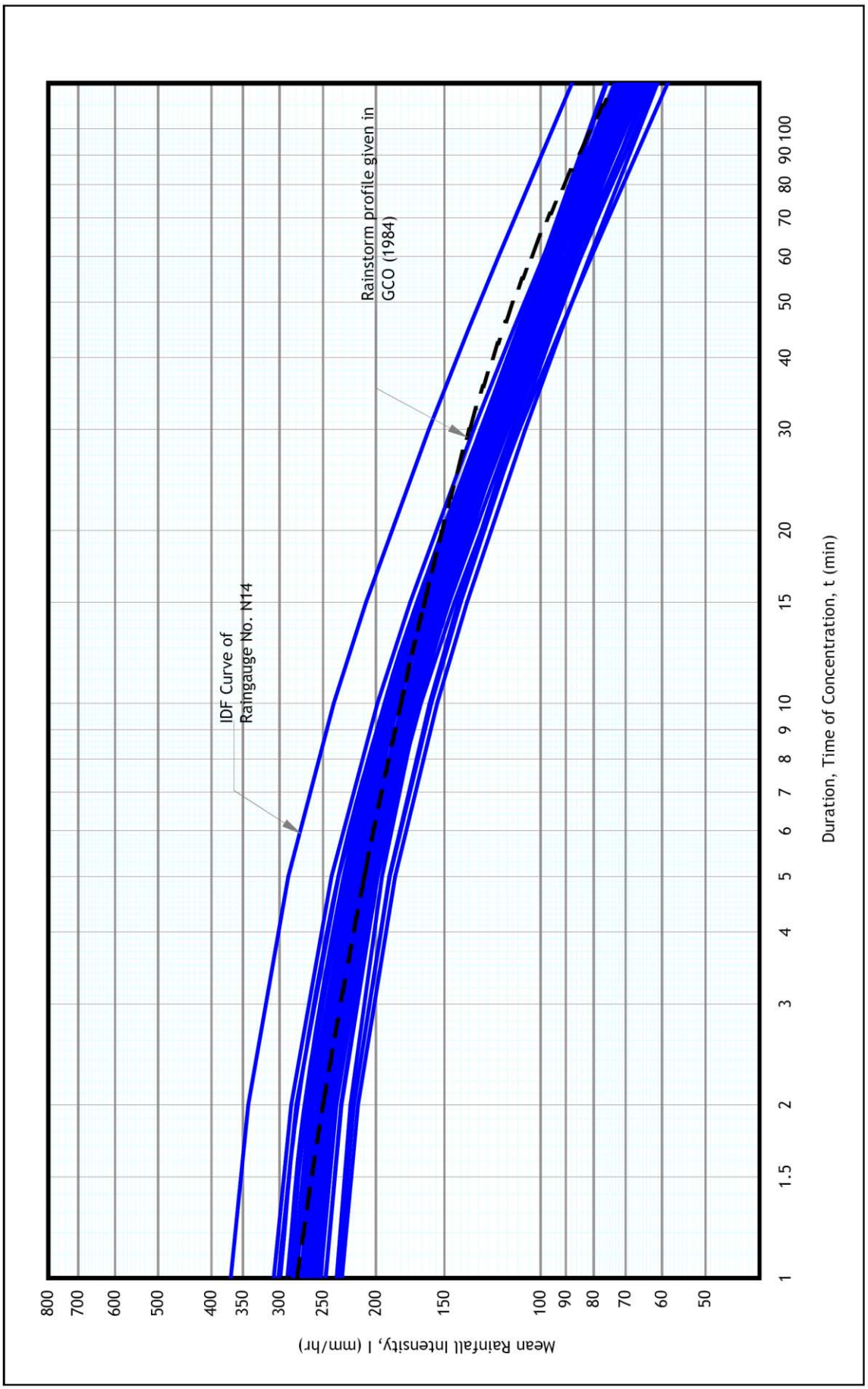

Figure E3 - Raingauge-specific IDF Curves with Return Period of 10 years

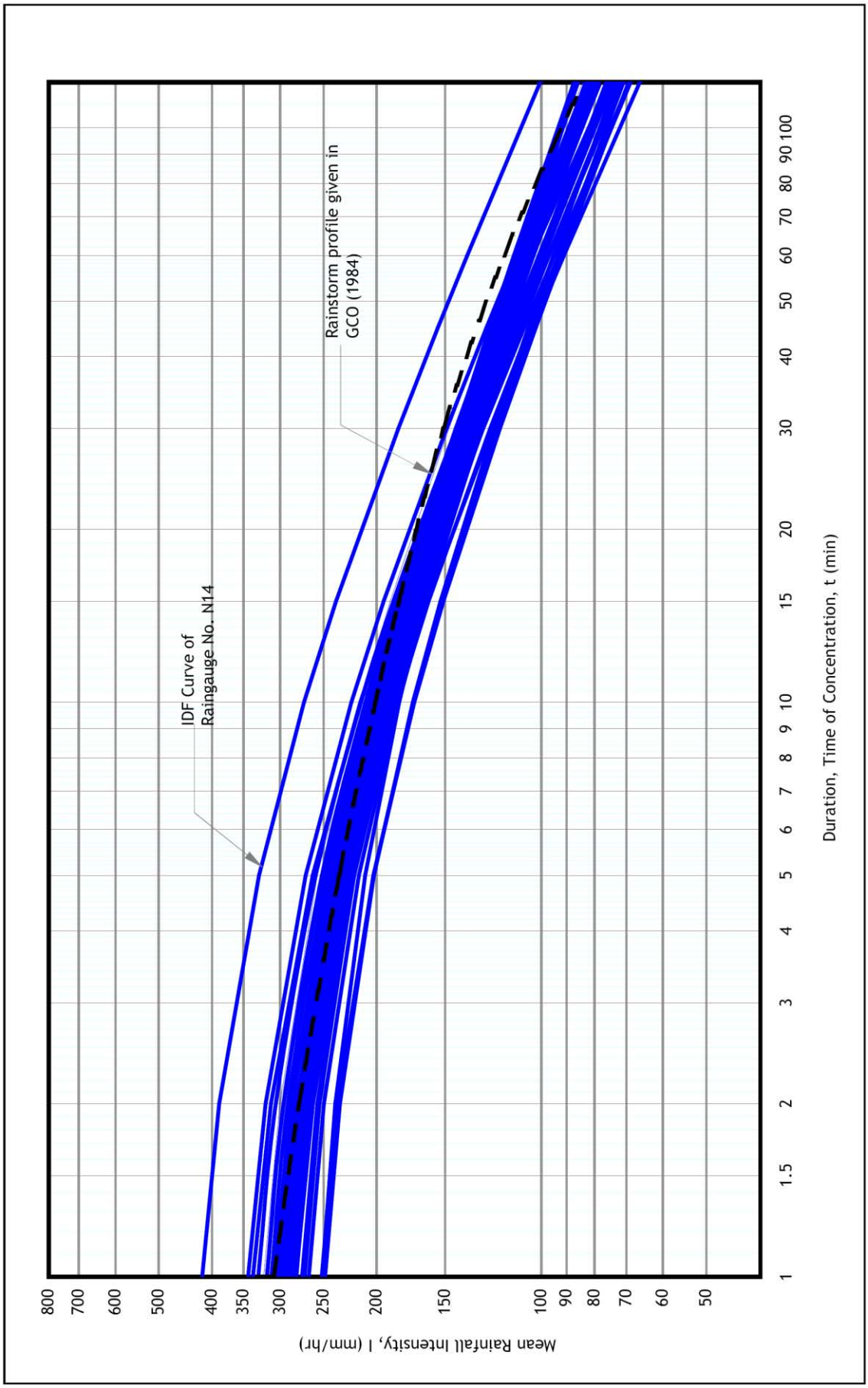

Figure E4 - Raingauge-specific IDF Curves with Return Period of 20 years

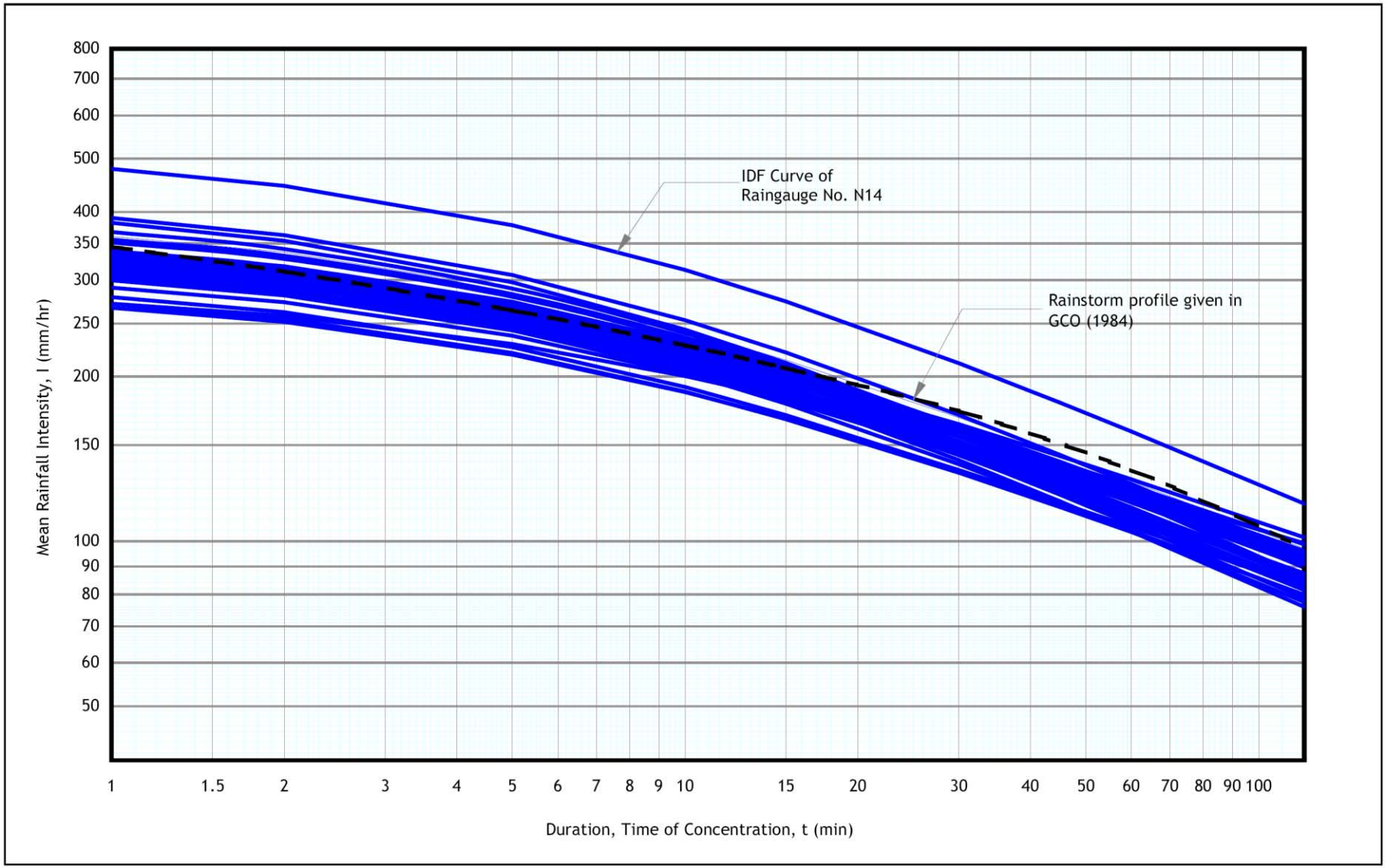

Figure E5 - Raingauge-specific IDF Curves with Return Period of 50 years

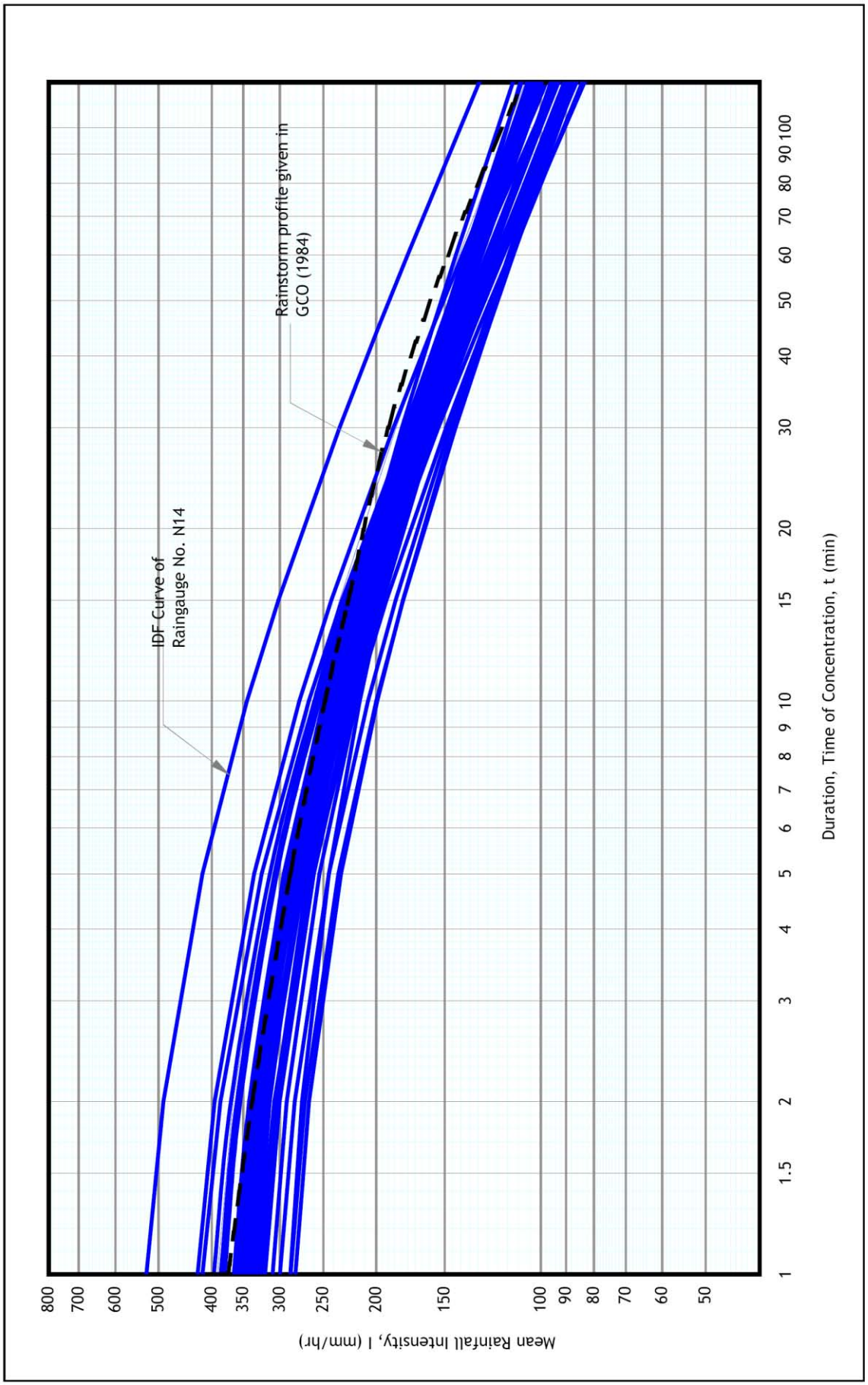

Figure E6 - Raingauge-specific IDF Curves with Return Period of 100 years

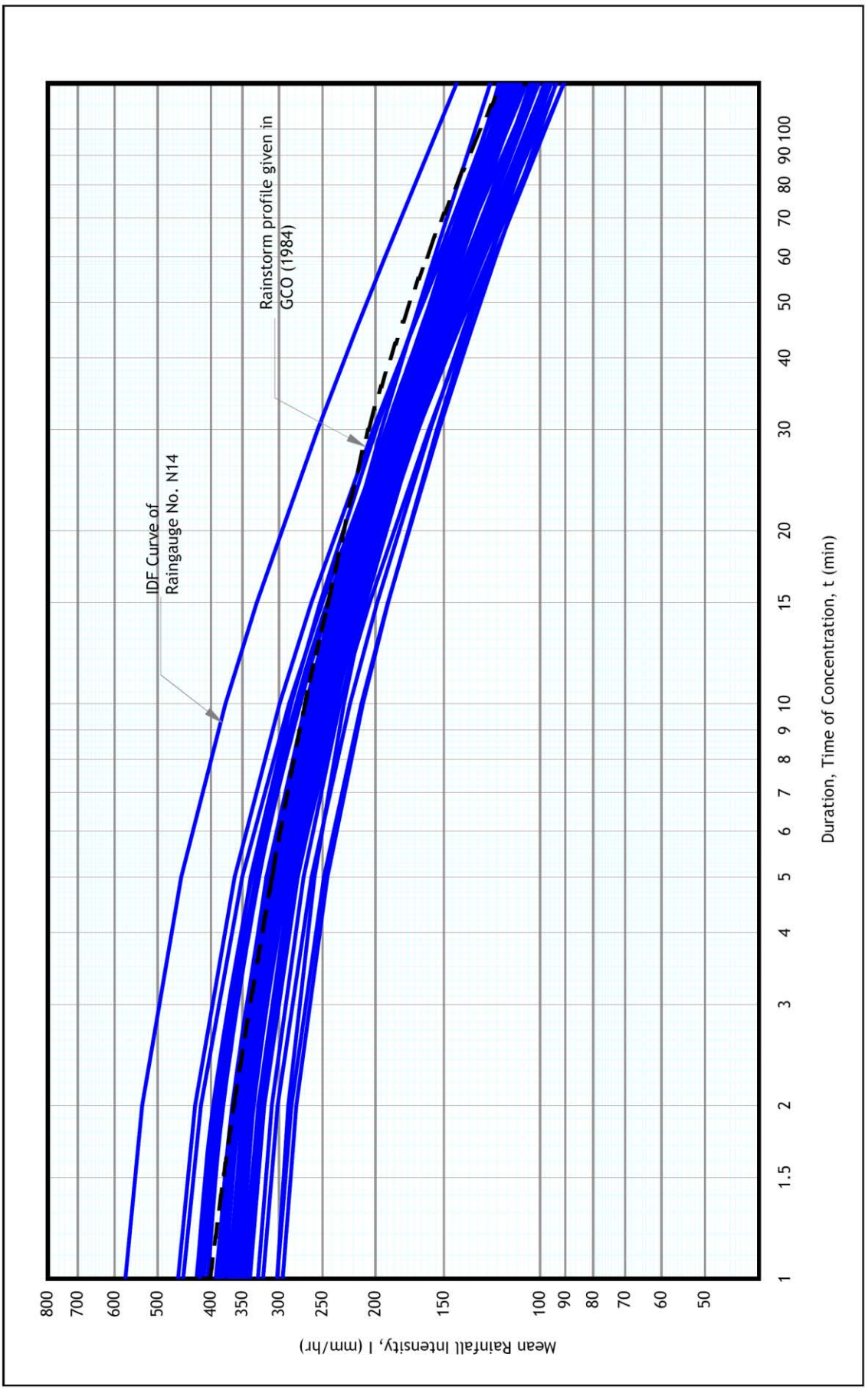

Figure E7 - Raingauge-specific IDF Curves with Return Period of 200 years

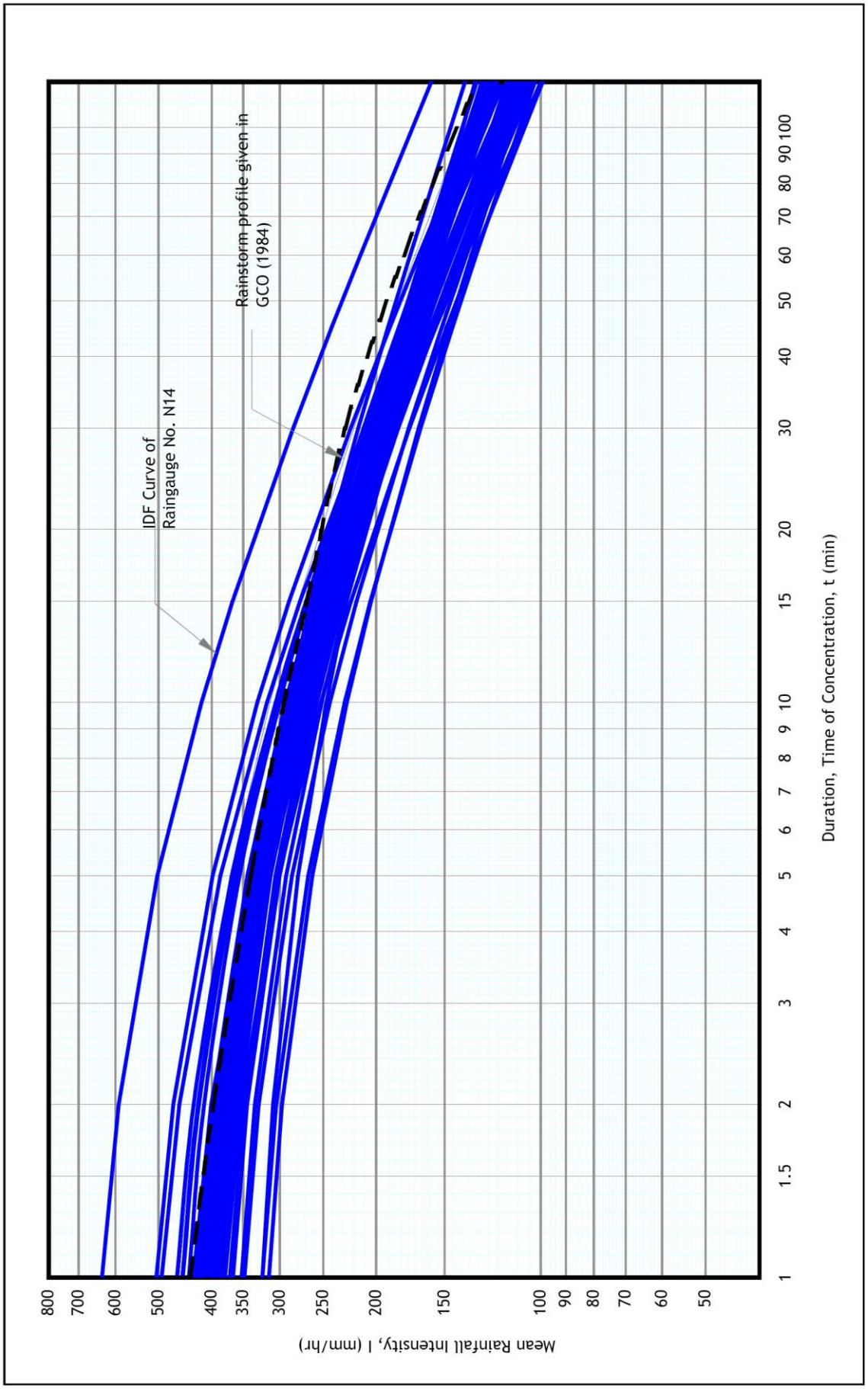

Figure E8 - Raingauge-specific IDF Curves with Return Period of 500 years

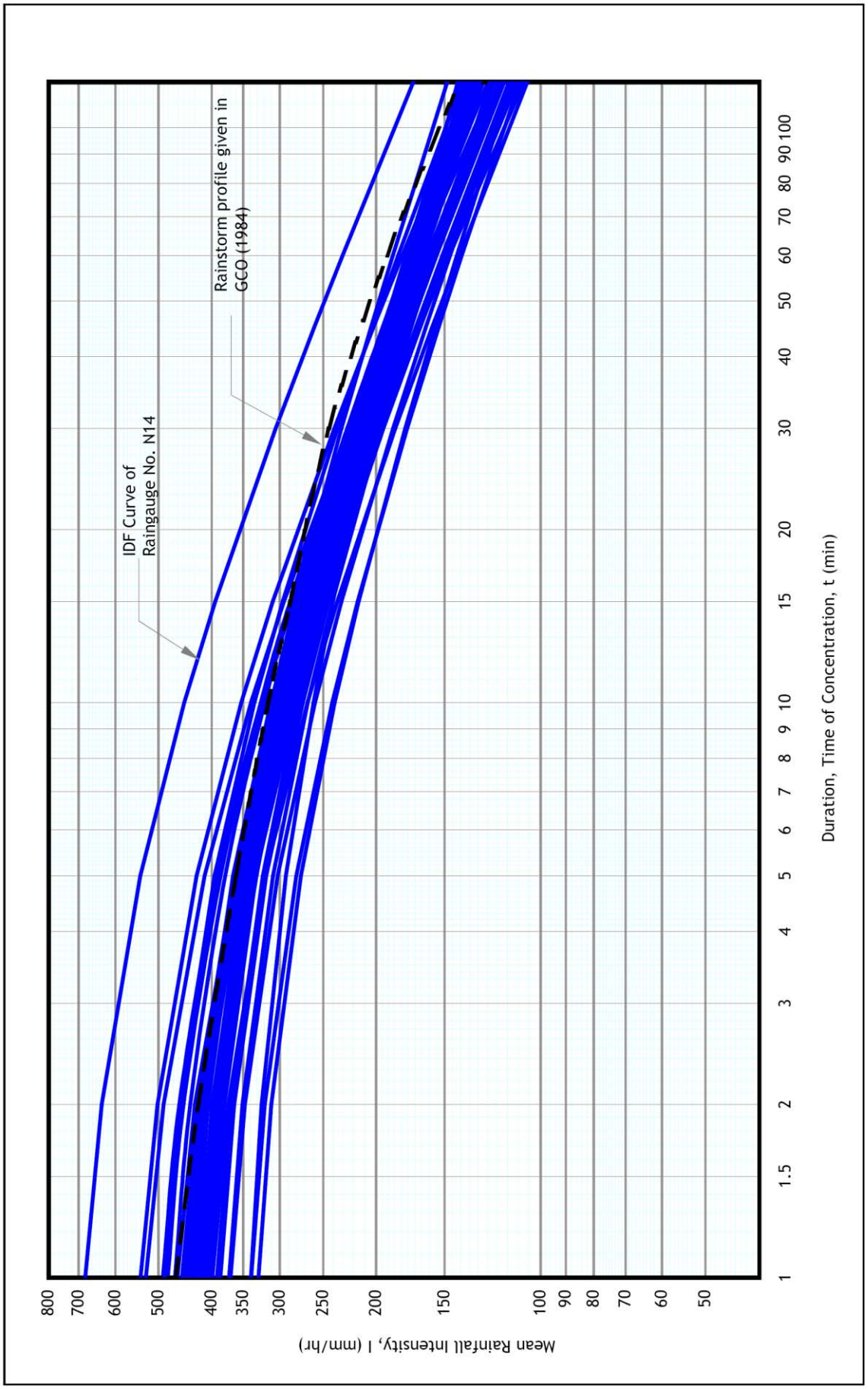

Figure E9 - Raingauge-specific IDF Curves with Return Period of 1000 years

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Appendix F

Annual Maximum Rainfall Depths Used in Statistical Analysis of Extreme Rainfall

Raingauge H01 at St. Clare's Girls' School, Mount Davis Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	13	18.5	23	32	50	81.5	113.5	142	156.5	158.5	159	161.5	205	212	213.5	224	266.5	390	618.5
1985	10	18.5	27.5	42.5	64.5	86	113.5	137.5	150	157	167.5	191	211	219.5	238.5	254	257	385	573
1986	14	26.5	36	60.5	83.5	96.5	108	108.5	108.5	119.5	143	188.5	209.5	217.5	217.5	222.5	235.5	343	422.5
1987	10	17.5	24	41	60	71.5	82.5	88.5	96	105.5	116	148.5	168.5	168.5	168.5	169	207	304.5	512.5
1988	8	14	19.5	28.5	41.5	59.5	82.5	87	89	90.5	99	116.5	130.5	154.5	170	186	208	274.5	425.5
1989	13.5	25	30	44.5	51	69.5	120.5	123.5	135.5	174.5	243.5	273	300.5	300.5	323.5	323.5	327	336.5	531.5
1990	10.5	17.5	24	34.5	48	59	61.5	78	85.5	92.5	117.5	153.5	164.5	191	195	196	201.5	245	343
1991	16.5	21.5	26.5	33.5	37.5	46	59	62	83.5	96	96	105	175	191	194.5	194.5	199.5	329	367.5
1992	21.5	33.5	40.5	57.5	103	173	220	240	303	366	366	367	426.5	443.5	446.5	446.5	446.5	528.5	652.5
1993	15.5	29	34.5	48.5	74.5	104.5	137	154	157	166	190.5	263	396.5	474.5	528.5	542	542	659.5	741.5
1994	15	23.5	30.5	47.5	92.5	120.5	158	165	176	300	324	341	551.5	684	715	744	748.5	1007.5	1277.5
1995	17.5	28.5	37.5	48.5	64	76	117	120.5	130.5	194	245.5	291.5	334	422.5	437.5	438	438	777	1129.5
1996	10	18	26	41	60	77.5	101	102.5	121.5	141	173.5	212	302.5	339.5	341	341	388.5	464.5	548.5
1997	11	20	27.5	43.5	63.5	78.5	96.5	116.5	134	152.5	176.5	187.5	235	306	317.5	339.5	346	543	955
1998	13.5	24	33	51.5	78.5	111	170.5	181.5	259.5	328.5	355.5	376	426	487.5	493.5	495.5	543.5	606	811
1999	10	19	28	45.5	61.5	87.5	144.5	172	185	187.5	204	212.5	387.5	400.5	426	426.5	441.5	531.5	590.5
2000	13.5	26.5	39.5	65.5	100	126.5	184.5	184.5	184.5	187.5	188	193	204	272.5	371.5	371.5	374	505.5	643
2001	19	31.5	42	59	66.5	102	122	135.5	136	147.5	181	193.5	257.5	368.5	432.5	438.5	578	676.5	1112
2002	15.5	27.5	33	49.5	82.5	125	163	183.5	184.5	193	216.5	220.5	271.5	442.5	469.5	473.5	554.5	674	711.5
2003	12.5	20	27	47.5	70.5	85	90	101.5	106	120.5	130.5	136	214.5	239.5	250	283	357.5	472.5	565.5
2004	10	20	27	42.5	62	68	91.5	98	100	101	116	120.5	140	153	157.5	171	189.5	287	380
2005	14.5	27	37	63	87	114.5	161.5	178	178.5	218	284	370.5	490.5	524	554	570	645	814	1117.5
2006	16	29.5	43.5	83	124	176	186.5	212.5	213.5	213.5	214	214	214	237.5	246.5	291.5	315	486	638.5
2007	13.5	19.5	24	39.5	52	58.5	71.5	90	95.5	117	125.5	154.5	174	218.5	238.5	239	239	333.5	600.5
2008	19.5	37	51	84	148.5	244	331	351.5	363.5	370	412	496	517	527.5	555	575	622	890.5	1440.5
2009	11.5	20.5	28	37	43	59.5	68	71.5	76	83.5	101	130.5	172	189	194.5	207.5	221	271.5	445

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge H02 at Block C & D, Kwun Lung Lau Estate, Lung Wah Street

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	10.5	18.5	26	37.5	55.5	81	122.5	153.5	168.5	171	172	174	219.5	227	227	243	285	423.5	690.5
1985	10	18.5	24	42	63.5	87	117	156.5	171.5	178.5	187	216	229	236	283	289	292.5	491	633.5
1986	13	24.5	32	50	67	76	105.5	119	128.5	140.5	169	180.5	219.5	226	238.5	238.5	274.5	464.5	589
1987	9	16.5	20.5	38	54.5	65.5	76	84	96.5	134	168	180.5	231	296.5	305	329.5	368.5	499.5	590.5
1988	8.5	15	20	34	43.5	62.5	91.5	95.5	97.5	97.5	109	135	163	173.5	198.5	207.5	220.5	278	441
1989	12	20	27.5	41	48	67	112	141.5	178.5	242.5	323.5	349.5	380	380	399.5	399.5	404	414	593.5
1990	9	16	23	33.5	52.5	54.5	67.5	87	91.5	102	137	177.5	188	214	217.5	219	251.5	280.5	378
1991	12	18	23	34.5	44.5	49.5	63.5	85.5	111.5	127.5	128	143.5	237	272.5	277	277	291.5	404.5	455.5
1992	22	30	33.5	44.5	84	144.5	194	214.5	267	321	321	322	377.5	395.5	400.5	400.5	408	486.5	633.5
1993	16.5	31.5	46.5	70.5	91	100	112	120	124	140	201.5	250	409.5	489	541.5	547.5	547.5	663	758
1994	13.5	23.5	33	55	101	127.5	167	178	182	310	338.5	362	547	673.5	700.5	718	719	923.5	1160.5
1995	15.5	26	34	45	60	71.5	113	116	146	192.5	253	303.5	344.5	430.5	448.5	450	450	857	1216.5
1996	9.5	16.5	21	35.5	64	84	110.5	134.5	140	161	200.5	247.5	337.5	368.5	369.5	369.5	407	482.5	572.5
1997	14	21.5	28	40	66	81	98.5	111	132.5	148	165	190	242	340	358.5	379	385	573.5	1053
1998	15.5	27	35.5	49.5	71.5	113.5	168.5	179	259	336.5	367	391.5	443	519	527.5	529.5	582.5	666.5	901.5
1999	11	20.5	30.5	50	63.5	99	159.5	196	213	216.5	247	296	511	532	557	557.5	573	677.5	870
2000	13.5	26.5	37	62	97	144.5	202.5	203	203	206	206	206	225.5	288	363.5	363.5	366	500	626.5
2001	15.5	26	34	48	66	107	132	145	146	157.5	189.5	202.5	279	374	451	458.5	599	727.5	1240.5
2002	15.5	27	34.5	44.5	67	106	135	162.5	192	221	250	255	317	499.5	529.5	533.5	625.5	753.5	779
2003	12.5	20	23.5	40	58	82	91.5	101.5	108.5	121	135	146	228	252.5	263.5	298	359.5	469	631
2004	13.5	26.5	33.5	50.5	73.5	80.5	107	113	116.5	118	134.5	138.5	156.5	170	177	199	219.5	317	436
2005	14	26	33.5	66.5	93	124.5	171.5	189	195.5	233.5	335	434.5	579.5	616	658.5	679	753	942	1259
2006	16.5	28.5	40	77	120	164	185.5	191.5	195.5	196	196.5	200.5	209	255.5	275	309	338	511	714
2007	11.5	20.5	25	33	45	51	68.5	85.5	93	110	129	158	174	217.5	233.5	234.5	235	327	583
2008	19	36.5	50	82	142	235	314.5	339	351	358.5	401	483.5	504	509.5	549	565	610	906	1459.5
2009	13	20.5	26.5	32.5	50.5	61	72	82.5	85	93	109	132	184.5	202.5	209.5	223.5	237	292.5	473

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge H03 at Block 44, Baguio Villa

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	10	17.5	23.5	32.5	48	74	103	128.5	141	143	143	147	181	193.5	194	202	237	371	539.5
1985	11	19.5	25	39	64	70.5	84	95.5	105.5	114	130	142	221	225.5	288	292.5	296.5	515	744.5
1986	15	28.5	39	56	72	81.5	92	93	102.5	122	145	178.5	208.5	214	220.5	225.5	230.5	417	526
1987	9	15	22.5	39.5	58	72.5	88	95.5	101.5	111.5	139	157.5	210.5	262.5	270.5	302.5	357.5	459	531.5
1988	13	25	35.5	57	67.5	80.5	112	116.5	117.5	117.5	127.5	149.5	173	195	212	219.5	247.5	294	494
1989	7	13.5	17	20.5	28.5	42.5	71.5	94.5	123.5	172	233.5	259.5	281.5	281.5	291	291	293	297	386.5
1990	10	16	21.5	36	62.5	72	75	100	103.5	113.5	138.5	189	203	231	235.5	236	239	295.5	403
1991	9	15	18.5	28	35	48	67.5	87.5	114	132.5	133	149	234.5	267	272.5	272.5	283.5	433	487
1992	22.5	31	35.5	54.5	103.5	179	212	236.5	293.5	350.5	350.5	351.5	404	422.5	425.5	425.5	425.5	500.5	631
1993	14	26.5	35	56.5	74	82	91.5	100	102.5	124	173.5	219.5	355	430.5	479	497	497	652.5	728
1994	10.5	19	28	53	81.5	106.5	133	146.5	158	230	250	277	456.5	593.5	625	660.5	667.5	899	1102
1995	13	26	33.5	44	59.5	66	115	115.5	135	176	220	268	321.5	405.5	429	430	430	758.5	1126
1996	9.5	16	22	41.5	73.5	107	131	132	132	141.5	177.5	215	300.5	350.5	351	351	411.5	475.5	569.5
1997	16	23.5	29	43	62.5	90.5	101	111.5	113.5	146.5	168.5	183.5	219.5	299	321	340.5	347.5	509.5	920.5
1998	13	23.5	33.5	58.5	80.5	95	115.5	163	200	244	260.5	282.5	328	388	395	397	443	513.5	751.5
1999	11	21.5	32	49.5	63	94	141	165.5	177	180	203.5	222	399.5	410.5	429	429.5	448	552	722.5
2000	13.5	22.5	31	52	79.5	118.5	165.5	166	166.5	170	172	190.5	190.5	271.5	343	343	344	478.5	653
2001	14.5	25	38.5	47.5	84	119	136	154.5	155.5	165.5	191	202	251.5	370	419	429	557	693	1110
2002	13.5	24	30.5	36	57	86.5	118	163	199.5	237	263.5	267	317	466.5	498	502	580	681.5	701.5
2003	14.5	22	28	39.5	54.5	71.5	81	87.5	92	110.5	124	144.5	215.5	242	250	292	383	509	624
2004	10.5	21	27.5	48.5	83	118	120	120	120	120	120	120.5	120.5	132	182	182	182	270	366
2005	12.5	23.5	33.5	61	86	102	147.5	168.5	168.5	204	272.5	364	474.5	515	554.5	575	660	880	1125
2006	21.5	38.5	53.5	97.5	164.5	225.5	236	261.5	262	262	263.5	263.5	263.5	274	299.5	358.5	394.5	518.5	720.5
2007	11	18.5	25.5	36.5	45.5	54	60	82	85	110	111.5	131.5	145.5	184	198	199	222	313	523.5
2008	15	28	40.5	70	128	191.5	271	280	291	295.5	342	424	440	440.5	472	476	529	770.5	1315.5
2009	11	21	29	39	44	63.5	72.5	76	91	98.5	100.5	125	166.5	180.5	187	189.5	202	290	482.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge H04 at Knowles Building, Hong Kong University

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	9.5	16.5	23.5	32.5	53.5	81	124.5	156	172	174.5	174.5	177.5	224	230.5	231	249	289	433.5	692
1985	9.5	17	24.5	43	64.5	91.5	126.5	171	186	194	202	236	251	257.5	265	265.5	279	449.5	681.5
1986	10	19.5	27.5	38	60.5	76	108	123.5	133	146.5	173	190	203	225	233	233	253.5	362	470
1987	9.5	18	21.5	35.5	52	67	78	85.5	100.5	156	196.5	207	267.5	349	357	383	411	515.5	578
1988	10.5	20	28	44.5	58.5	75.5	105.5	110.5	111.5	111.5	127	153.5	178	181	188	198.5	205.5	262	447
1989	11.5	17.5	25	39	52	66.5	112.5	122.5	172	238	305	340.5	372.5	372.5	395.5	395.5	399.5	409.5	598
1990	10.5	16.5	23.5	34.5	66	75.5	80	100	105.5	115.5	158.5	204	216.5	244.5	247.5	255	272.5	335	480.5
1991	12	18.5	23.5	36.5	46	51	63	92	119	138	139	156.5	253	305.5	308.5	308.5	325	426	491.5
1992	18	24.5	33.5	52	92	168	218	237	294	345	345	346	408.5	427	432.5	432.5	459.5	522	700.5
1993	17	28	38.5	60	83	93	105.5	115	132.5	180	251.5	314.5	485.5	571	627	641.5	641.5	787.5	883
1994	12.5	24	34.5	61.5	106.5	136.5	178.5	189	194	339.5	366	389	599	733	761.5	777	784.5	1034.5	1307.5
1995	15.5	27	34	48.5	64	79	122.5	127.5	154.5	213	281	336	383.5	473	498.5	501	501	924	1239.5
1996	11	18	24	37.5	68.5	89.5	112.5	140.5	146	171.5	209.5	263	351	384	384.5	384.5	420	504.5	609.5
1997	14.5	26.5	36.5	54	85.5	102	118	129.5	165.5	167	188	217.5	277.5	352	378	393.5	407.5	626.5	1131
1998	20	35.5	48	59.5	64.5	102.5	158	172.5	253	336	368	390.5	431	508.5	517	519	572	657	907
1999	13	23.5	34	50.5	65	107	162.5	198	216.5	220	256.5	316	564.5	591.5	617.5	617.5	643	735	931.5
2000	13.5	26.5	38	66	104.5	161.5	235.5	236	236	240.5	240.5	240.5	259	332	416.5	417	420	574	713
2001	18	28.5	37.5	52	73	114.5	143.5	157.5	158.5	169	205	217	296.5	398	477.5	488.5	646.5	791	1398
2002	13	23	30.5	40.5	64.5	98.5	125.5	162	194.5	225.5	257	261.5	336	531	556.5	561.5	657.5	784.5	832.5
2003	14	20	25.5	44.5	67.5	97	108.5	115.5	123.5	131	149	162	257	282	290.5	330	374.5	488	706.5
2004	14.5	25	31.5	48.5	74	80.5	104.5	111.5	115	117	139	144.5	168	185	190.5	227	253.5	351.5	495.5
2005	18	31.5	39.5	74.5	109	139	185.5	200.5	201	241.5	335.5	435	578	615.5	658	686.5	749.5	934	1231.5
2006	16.5	28.5	38.5	68.5	126.5	180.5	205.5	207	207	207	207.5	210.5	219.5	259	284	329	372.5	497.5	724
2007	14	23	29	36.5	52.5	64.5	68	85.5	94.5	123.5	130	163.5	182	228	246.5	247	270.5	363	632
2008	15.5	26.5	38	67	128	210.5	297	321.5	337.5	345	391	477	499	499	557	583.5	629.5	933	1515.5
2009	10	17	24	40.5	58.5	73.5	93	97	103	114	127	141.5	189.5	216.5	216.5	228	248.5	297.5	504

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge H05 at Aberdeen Treatment Works, Aberdeen Reservoir Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	10.5	20.5	29.5	43	43.5	52.5	78	98.5	117	122.5	129	153.5	157	166	171.5	175	205	347.5	484.5
1985	9	17.5	24.5	32	59.5	66.5	91.5	109.5	118	131	143	153	208.5	216.5	252	260.5	280.5	455.5	725.5
1986	12	23.5	33.5	48.5	82	89.5	102	105.5	105.5	113	160	186.5	211.5	232.5	240.5	240.5	286	410	552
1987	11.5	21.5	29	48	69	79	99	110.5	117	122.5	146	168	213.5	281	289.5	335.5	429.5	528	612.5
1988	13	24	32.5	54.5	74.5	96.5	137	143	148	148	161	212.5	246.5	250	262.5	276	280	331	628.5
1989	10	20	27.5	42.5	48.5	56.5	92	124	160.5	220	280	314.5	353	353	360.5	360.5	364.5	370.5	503.5
1990	9.5	18	22.5	32.5	42.5	63.5	77.5	88	92	99.5	126	166.5	182	212	217.5	218	218	278	367.5
1991	10	15	20.5	27.5	43.5	68.5	81	94	107.5	125	125.5	142.5	203.5	233.5	235.5	236.5	237.5	386.5	444
1992	15.5	25.5	27.5	38	64.5	122	150	168.5	217	257.5	257.5	259	313.5	327	331.5	331.5	331.5	390	494.5
1993	16	27	35	55.5	81.5	89.5	100.5	110.5	112.5	125	176.5	220	366.5	440.5	493	506.5	506.5	659.5	718
1994	11.5	22.5	32.5	55	71.5	102.5	159.5	171.5	180.5	187.5	215.5	297	438	617.5	652.5	675	688	939	1160
1995	15	27	36.5	43.5	75	93	159	159.5	166	213.5	268	346	403	484	511.5	511.5	511.5	954	1268
1996	11.5	19.5	27.5	51	91.5	122.5	147	149.5	149.5	173.5	200	250	386	418	422.5	424.5	443.5	536	697.5
1997	16	24.5	28.5	51	76	91.5	126.5	136	142	159.5	188.5	217	254	337.5	364.5	402	403.5	585.5	1036.5
1998	14	27	37.5	59	78	108	142	184.5	209.5	221	245	261.5	301	373	381.5	383	429.5	526.5	767.5
1999	15.5	27	33	48.5	83	108.5	150	171.5	185	187.5	237	272	505	513.5	532	533.5	552	688.5	849.5
2000	13	25.5	38	69	110.5	158.5	227.5	228.5	234	235.5	242	242	244.5	327	366.5	366.5	366.5	506	745
2001	14.5	23	31	59	99.5	128.5	144.5	161	174	180.5	188.5	199	263.5	393	457.5	463.5	633	843	1321
2002	11	20.5	27.5	48.5	64.5	91.5	120.5	164	227.5	263.5	295	297.5	365	500.5	533	536	615	722	744
2003	12	18	23	32.5	45.5	58.5	66	68	80	90	115	139	204	233	247.5	290	362.5	474	606
2004	14.5	22	28.5	45	62.5	109	120	120	120	120	124.5	131	144.5	163.5	185	190.5	227.5	324.5	485
2005	12.5	23.5	33	50.5	70	108.5	132	159.5	173	211.5	292	388.5	512	552	601.5	625.5	708	943.5	1209.5
2006	18.5	35.5	51	98	166.5	217.5	227.5	260.5	264	267	270	270	270	282	284.5	339	341	508.5	700
2007	11.5	20	24.5	43	56.5	70	72	90.5	93	124.5	126.5	139.5	154.5	189	209	240	258	339	581.5
2008	15	27	36	58.5	93.5	127.5	229.5	242	252.5	259	311	385.5	398	399	451.5	455	524.5	828	1424.5
2009	11.5	18.5	25	40.5	50	75	82	90.5	91.5	123	135	139	175	192	202.5	205.5	219.5	361.5	608.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge H06 at St. Margaret College, Shiu Fai Terrace

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	11.5	20.5	28.5	39.5	41	63	78.5	89.5	106.5	111	112.5	116	142	174.5	181	181.5	207.5	364	549.5
1985	10	18.5	27	46	69	102	145	182.5	197	214	223.5	256.5	281	288	296	297	313.5	460.5	732
1986	13	23.5	32.5	50.5	84.5	111.5	123	127	127	128	163	191	215.5	226	233.5	237.5	272	448	615.5
1987	9.5	18	26	43	66	80	98.5	109.5	116	122.5	144.5	156	205	277.5	281	332.5	413	502.5	592.5
1988	9.5	18	24	39.5	49	74	110.5	116	121.5	121.5	136	178	206.5	209.5	210	214.5	243	301	519
1989	7.5	13	19	28.5	42	67.5	111.5	119.5	161.5	234	285	318.5	356	356.5	371	371	377	391.5	564
1990	7.5	13.5	19.5	32.5	43.5	57.5	75.5	90	96.5	105.5	145.5	194	212.5	239.5	244.5	244.5	247.5	335	438
1991	7	12.5	16	24.5	27.5	52	71	87.5	89	112	121	133.5	188.5	204.5	207	207.5	212	320	375.5
1992	13	23	30	55.5	92.5	161	196	213.5	256	304.5	304.5	305.5	374.5	392.5	400	400	404	479.5	631.5
1993	11.5	20	28	46	76.5	90.5	99	126.5	150	193	234	318.5	478.5	576	638.5	656	656	850	925
1994	8	15	21	36	59.5	90.5	127	139.5	149.5	189	221.5	269	418.5	606	641.5	656	669	934	1156
1995	15.5	24.5	29.5	56	87.5	98	175.5	177	189	278	384.5	453.5	518.5	613	646	646.5	646.5	1141	1438
1996	12	23.5	27	47.5	66	81.5	118.5	146	154.5	181.5	220	290	377.5	418.5	419	419	457	598.5	763
1997	16	26.5	36	59.5	86	116.5	166	188.5	193.5	203.5	229	246.5	286.5	386.5	407	417	428	590	1081
1998	18.5	34.5	43	56	61.5	94.5	141	175	221.5	249	275	301.5	336	415.5	423	427.5	467.5	572	793.5
1999	13.5	25	32.5	44.5	72.5	114	149.5	173.5	189.5	194	237	270.5	518.5	542	562	562.5	577.5	710.5	886.5
2000	14	26	38.5	72	109.5	152.5	242	243	243.5	247.5	248	248.5	254.5	321	346	352.5	371	485	761.5
2001	14.5	24	27.5	47	72	91	120	141	142.5	168	177	194	267	400.5	461.5	468.5	658	768	1445.5
2002	14	24	34	53	80	121.5	130	149	171	195	227	243.5	315.5	521	569.5	575.5	670.5	792	834.5
2003	12.5	23.5	28.5	37	43.5	69	77	82	86.5	111	132	160	225.5	252.5	262	321	378	498.5	743
2004	14	25	33.5	55	75	88	99.5	99.5	110.5	114	126	138.5	157.5	176.5	190.5	233	264.5	361	537.5
2005	13	25	30	40	61.5	91.5	132	168.5	188	244.5	354	457.5	607.5	650	690	727.5	792	998	1331.5
2006	19.5	35	42	73	119.5	166	181.5	211	211.5	233.5	257	264.5	279	284	284.5	308.5	403.5	480.5	716.5
2007	11	19	25	38.5	47	67.5	67.5	70	77.5	105	106.5	131	154.5	203	260	288.5	311.5	391.5	625.5
2008	13	23	33	58.5	103	152	252	266.5	280	288.5	340	415	430	430.5	482.5	498	577	910	1586.5
2009	12	22.5	32.5	50.5	65	85	105	111	112.5	147.5	164.5	189.5	236	253.5	254	272.5	292	373	682

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge H07 at South China Athletic Assn. Stadium, Caroline Hill Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	11.5	22.5	28.5	51	67.5	89	133.5	192.5	226	244	245.5	251.5	298.5	320	329	378	406	578	883
1985	12	21.5	31	43.5	55.5	61	72	82.5	93	105.5	129.5	143.5	206	216	247	257	286.5	445	697
1986	14.5	25.5	34.5	53	76	105.5	116	120.5	120.5	132	164.5	191	220	231	240	242.5	273.5	483	636
1987	10	18.5	27	44.5	70	84	103.5	115	121	128	139.5	152.5	191	255	258	314	376.5	450.5	569
1988	10	15	21.5	35.5	46	70	103	107	115	115	136.5	184.5	210.5	213	214.5	215	215	273.5	501.5
1989	9.5	17.5	26.5	37.5	49	66	118.5	129	181	252	297	332.5	367	367	380	380	383	393.5	583.5
1990	10	15.5	19.5	27.5	39	56	70.5	89	91	91.5	123.5	165.5	179	211	216	216	219.5	311	402.5
1991	10	16	19	25.5	33.5	54	73.5	91	92	115	122	126	169.5	198	200	202.5	206	327	387.5
1992	13.5	25	35	64	115.5	182	211.5	226	267.5	319	319.5	320	371	381	390	390	390.5	464.5	663
1993	12	20.5	27.5	50.5	66.5	87.5	96.5	117	138	174.5	219	277.5	428	515.5	580.5	596	596	745.5	820
1994	13	24	32.5	50.5	73	89	120.5	131	140.5	189.5	219	260	403.5	567	605	616	626.5	878	1076
1995	14.5	23	29.5	51	77.5	91.5	153.5	155.5	164	237	313.5	380.5	441	511.5	543	543.5	543.5	938	1187
1996	12	21.5	29	49.5	75	81	113.5	143	154	180	213.5	287	369.5	410.5	411	411	444	581	728
1997	13.5	25	34	55.5	86.5	113.5	174.5	202	204.5	216.5	238	258.5	277.5	370.5	387	397	410.5	579	1015
1998	18	32.5	43	55	69.5	88.5	135	167	208.5	234	267.5	301	334.5	416	424.5	430	474.5	597.5	833
1999	11.5	21.5	29.5	41	69	110	154	177.5	193.5	196	240	283	530.5	552	573	573.5	586.5	718	900.5
2000	13.5	25.5	33.5	60	89.5	134	207	208.5	208.5	214.5	215.5	216	226.5	288.5	378.5	385	400.5	455.5	760.5
2001	12.5	22	29.5	40	64	90	100	120.5	132	164.5	171	176	290.5	365.5	426.5	431.5	615.5	772.5	1410.5
2002	13	25.5	37.5	48	76	127.5	136	145	177.5	194.5	217	223.5	334	514.5	541.5	558.5	658.5	785.5	844.5
2003	11.5	21.5	29.5	40.5	48.5	66.5	75	79.5	84	113.5	138	161	232	262.5	278	310	376.5	494	780
2004	17	27	36.5	56.5	78.5	86	98	102.5	120	121	121	123.5	141.5	160	169	214	250.5	350	540.5
2005	12	19.5	26.5	36	55.5	84	120	155	175.5	230.5	338	432	582.5	634	663	703	767.5	965	1257
2006	17.5	28.5	35.5	52.5	85.5	141	168	190	194.5	219	233	237.5	260	264	266	293	366	436.5	694.5
2007	13.5	21.5	27.5	41	50	65.5	65.5	77	79.5	111.5	112	125.5	152	199	238	247.5	279.5	397.5	600.5
2008	15	27.5	37	60	101.5	147	257	272.5	287.5	300.5	341.5	418	437.5	437.5	491.5	500	573	904	1561.5
2009	12	22	32.5	47	60.5	76.5	102.5	117	145.5	157	206.5	234	283	311.5	311.5	326	345.5	396	675

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge H08 at Eastern Treatment Works, Stubbs Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	10	18	24	37.5	44	57.5	93	123	154	170	171	177	215	231.5	238	278.5	314.5	468	736.5
1985	11.5	17	22	34	52	88	131.5	164	178	197.5	208	239	273	280	289	289.5	305	434	645
1986	14	26	37	59.5	66	72	82	94.5	108	124.5	145	169	176.5	202	204.5	204.5	205	377.5	461.5
1987	8.5	16	22	36.5	55	69.5	70	70.5	74.5	98.5	100	122.5	144	147.5	164.5	174.5	240	330.5	519.5
1988	8	14.5	20	34.5	45.5	62	91	94	101.5	101.5	113	149	167	173	184	188.5	194	235.5	449.5
1989	12	22	32	43.5	47	64.5	103.5	141.5	190.5	273.5	329.5	368	409	409.5	423.5	423.5	428	440	599.5
1990	10.5	16	21	34.5	45.5	64.5	84.5	102	104	109	148	196.5	214	253.5	260	260	267.5	360	439
1991	9.5	16.5	21.5	30.5	45.5	64	82	107	108.5	139.5	144.5	144.5	233	240.5	242	242	242.5	376.5	443
1992	19.5	25	30.5	52.5	100	162.5	200	217	273	320	320	321	381.5	397.5	406	406	407	489	648
1993	12.5	22.5	29	53.5	71	83	94	109	132	169	208.5	278	417.5	500	554.5	572.5	576	711	785
1994	12.5	23	32	56	76	90	130.5	131	133	191.5	211.5	246.5	394.5	562.5	598	606	613.5	890	1097.5
1995	12.5	24	31.5	51.5	98	116.5	194	197	206.5	274.5	391.5	468	537.5	618.5	654	654	654	1174	1470.5
1996	11.5	20.5	27	48.5	70	88	113.5	142	147.5	178	214.5	284	372	421.5	422	422	464	598	764
1997	13	25	33.5	54.5	84	111.5	162.5	188	194.5	206	230	245	273.5	371.5	388.5	406	411	593.5	1124
1998	13.5	25	35.5	56	79.5	105	135	177.5	201.5	231.5	254	273	312	389.5	399	403	453.5	574.5	821
1999	12.5	20.5	29	48	71.5	110	153	176	191.5	194.5	233	266	509.5	523.5	544.5	545.5	561.5	704.5	895
2000	14	27.5	36	70	113	166	271.5	272.5	274.5	279.5	282.5	282.5	287	369	401.5	413	438	526	870
2001	15.5	25	33.5	56.5	68	87.5	109.5	126	151.5	180	192	197	268.5	390	450	455.5	618	878.5	1395
2002	14	21.5	27	43	68.5	90	126	149	174.5	193	220	227.5	306.5	508	541	550	634.5	778.5	830
2003	11.5	18	24.5	36	43.5	63	71	76	90.5	110	138	170	241	271.5	272.5	321	365.5	490.5	724
2004	13	26	32.5	51.5	73	92	110.5	110.5	110.5	110.5	137	143.5	155.5	171	184	241	275	360	517.5
2005	13	23	30.5	48.5	62.5	92	123.5	174.5	186.5	228.5	334.5	439	587.5	634.5	677	717	769.5	986.5	1291
2006	18.5	36.5	46	77	124.5	166.5	188	210	211	221.5	262.5	271.5	287.5	294.5	297.5	325	375	477	734.5
2007	14	23.5	28.5	34.5	44	58	65	85	87.5	123	124	135.5	168.5	216.5	243.5	262.5	285.5	384.5	612.5
2008	16.5	27.5	34	62.5	100	128	240	260	274	285.5	325	405	428	428.5	479	486	551	913	1514
2009	11	21.5	25.5	38.5	68	84.5	112	118.5	134.5	149.5	193	222.5	283.5	312	312	325.5	353.5	397.5	698.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge H09 at Kiangsu Chekiang College, 20 Braemar Hill Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	9.5	17	24	36.5	49.5	73	103.5	149.5	175.5	186.5	187	190	223.5	236.5	240	263	298	447.5	700
1985	14	24.5	35	58	73.5	100.5	144.5	194	214	231	242.5	299.5	326.5	333	337.5	341.5	358	531	814.5
1986	12.5	22	30.5	55.5	86.5	122	140.5	147	147	154	187.5	220.5	260.5	290.5	301.5	301.5	333.5	519	654.5
1987	12.5	24.5	34	53	81	96.5	118	131	139	150.5	195	209.5	267	345	349.5	415.5	504	626	802
1988	12.5	19.5	28	45.5	61.5	93.5	137	142	152	152	185	265.5	296	298.5	301	302	304.5	375	720
1989	15	28	40.5	58	75.5	91.5	163	183.5	211.5	278.5	334	363	399	400	417	418	424	458.5	692.5
1990	9	13	16	25.5	40	62.5	87.5	94	96	104.5	119.5	156	169	194.5	198.5	199.5	207.5	334.5	444.5
1991	8.5	16.5	20	27	42.5	70.5	87	89	90	118	120	122.5	217	237	237.5	237.5	237.5	302.5	361
1992	16.5	33	38.5	74.5	131	183	214	228	270.5	334	334	334.5	405.5	421	433.5	433.5	435	514.5	676
1993	13	22	28.5	56	76.5	107	118.5	129	130.5	152.5	223.5	279	414	487.5	556	570	570.5	714	815.5
1994	12.5	23	33.5	60.5	80	93	117	117.5	125	205.5	231	246	402	560	600.5	635	666	928.5	1119
1995	16.5	32	45.5	64.5	88	100.5	152	158	170.5	260	339.5	409	469.5	551.5	581	582.5	582.5	1055.5	1350.5
1996	11.5	21.5	27	42.5	64	70	88	141.5	153	177	212.5	268	339	377.5	378	378.5	425	564	668.5
1997	17.5	30.5	43	70	91	115.5	167	199.5	201	209.5	229.5	244	317.5	401.5	457.5	498	504.5	694	1190.5
1998	15.5	30	43	63	72	93.5	148.5	184.5	235.5	281	329.5	360.5	395.5	476	485	492.5	560.5	740.5	1000.5
1999	13	23.5	32.5	42	72.5	104.5	160.5	186	203	207.5	281	334.5	609	647	667.5	668	688	824	1048.5
2000	13	25.5	32.5	47	79	100.5	165.5	167	167	174	175	192.5	235.5	305.5	396.5	401	446	459.5	763
2001	13	25	31	45.5	62	82.5	120.5	138.5	140	162.5	172.5	181	293.5	365.5	421	450	609.5	853.5	1364.5
2002	13.5	22.5	30	56.5	87	139	153.5	165.5	190	203	222.5	274.5	412	597	620.5	642	746	890.5	934
2003	13.5	27	36	52.5	75.5	84	94	95.5	109	122	156.5	160.5	256.5	282.5	309	348.5	407	514	864
2004	14	25	31.5	53	74.5	83.5	95.5	100.5	112.5	115	124	137	155	175	184	198	241	361.5	520.5
2005	11	19.5	25	38	50.5	86.5	115	145.5	168.5	223.5	325.5	404.5	549	595	633	681.5	761	966	1210.5
2006	15.5	28.5	36.5	50.5	85	135	192	219.5	224	250	276	279	334	345.5	351.5	352	399.5	460.5	710
2007	11.5	20	26	42.5	49.5	62	64.5	73.5	81.5	95.5	106	139	159	216.5	247.5	272	295.5	386.5	593.5
2008	15.5	24.5	35.5	65.5	105.5	155	256	287.5	298.5	310.5	348.5	426.5	460	460.5	492	505.5	554	866.5	1458.5
2009	14	23	31.5	42.5	61	73.5	98	126	146.5	157	195.5	226.5	281	307.5	307.5	320.5	334.5	388.5	724

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge H10 at Peak Wireless Station, Mount Austin Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	9.5	16.5	21	31	51.5	77	113.5	145.5	165	168	168	170.5	211.5	221.5	223	246	265.5	429	640
1985	11	21.5	31.5	49.5	71.5	102	139.5	179.5	185.5	196	205.5	248.5	258	267	291	301	322.5	537	813.5
1986	13.5	24	34	54	78.5	92	116.5	138	151	168	201	221	252.5	263.5	272	272	324.5	550	654.5
1987	11.5	18.5	27	46.5	70	85.5	99.5	109.5	116.5	122	133.5	165.5	193	200.5	200.5	201	229.5	303.5	495.5
1988	11	20.5	30	50	64	80	114	118.5	120.5	120.5	136	170	200	200	200	200	204.5	241	481
1989	14.5	23.5	31.5	48.5	73.5	96.5	170.5	172.5	185	252	322.5	363	403.5	404.5	426	427	433.5	450	752.5
1990	9.5	16.5	25	41.5	75	92	95	114	123	127	167	217.5	236.5	267.5	272.5	276.5	296	356.5	477
1991	8.5	14.5	20	27	34	39	60.5	89	113	133.5	134.5	150	223.5	263	266.5	268	282.5	364.5	423.5
1992	25	36	41	58	101	178	243	255	309	385	385	386.5	458	481	486.5	486.5	487	596	726.5
1993	15	25.5	35	55.5	74.5	83.5	94.5	104.5	114.5	136	203	242.5	386.5	470.5	527	540	540	665.5	752
1994	12	22	31.5	59	91	113	141.5	147.5	161	267.5	286	301.5	496.5	620.5	655.5	671	680	941	1208
1995	13.5	22.5	27	38	54.5	64.5	109	126.5	142.5	196.5	270.5	335.5	390	478	502	504	504	932	1291.5
1996	12	21.5	28	41	63.5	82.5	109.5	136.5	143	167.5	210	270	363.5	408	408.5	408.5	454.5	546.5	683
1997	15	22	29.5	48	70.5	93	113	119.5	126.5	169.5	206.5	244.5	306	355.5	387.5	398	408.5	566.5	1040
1998	19.5	34	43	52	56.5	92.5	144	189	252.5	312.5	345	364	415.5	484	492	497	550.5	634	907.5
1999	15.5	25.5	34	51	72.5	102	147	177	193.5	197.5	242	287.5	528	551	581	581.5	603.5	725	926.5
2000	13	22.5	32.5	62	102.5	156	230.5	231	231	238	239	239	243	320	387	387	388.5	549.5	693.5
2001	16.5	29.5	39	54	85	111.5	137	153	154.5	173	194	205.5	269.5	400	463.5	476.5	637	797.5	1386.5
2002	13.5	24.5	32	49	69	118	130	166	210	248.5	284.5	289.5	359	543.5	572.5	577	674.5	794.5	847
2003	10.5	17.5	25	43.5	66	92	109	116.5	122	134.5	151	167	263	293	299.5	354.5	397	510.5	707.5
2004	16	26	33	56.5	82.5	91.5	112	119	120.5	122.5	126.5	148	168.5	189.5	198.5	213.5	244.5	345	454.5
2005	15	24	32.5	64.5	90	109	157	176.5	181	224.5	331	435	575.5	623.5	664.5	695.5	771	982.5	1299.5
2006	15.5	28.5	40	65	117.5	179	209	211	211	211	211.5	213.5	219	277.5	295	330.5	373	520	754
2007	10	18	23.5	36.5	46.5	54.5	65.5	82	91	118	119	148.5	167	215	233.5	234.5	262.5	367	624
2008	14.5	28	42	76	140	215.5	293.5	305.5	320	326.5	373	457.5	478	479	529.5	557	614	885	1442.5
2009	11	19	26	36	53	70	90.5	91.5	95.5	131	145.5	150	176	203.5	204	219.5	244	322	538

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge H12 at Buxey Lodge, 37 Conduit Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	9.5	16	23	33.5	51.5	78	117.5	150	169.5	172.5	174	176	220	227	227.5	248.5	280	444.5	675.5
1985	10.5	18	27.5	44.5	66	96.5	135.5	182	199	209.5	218	254.5	272.5	280.5	291.5	291.5	302.5	361.5	511.5
1986	11.5	21	30	48	66.5	85.5	121.5	143	155.5	171.5	196	215	230	246.5	255	255	275	313	487
1987	10.5	16.5	20	32	52	73	83.5	91.5	103	134	170.5	179.5	238.5	303	309.5	346	389.5	511	582
1988	10	18	26	44.5	59	76	111.5	116	119	119	137.5	173.5	206	207	220.5	233	240.5	277.5	525
1989	12	19.5	26	40.5	47	62	106	141.5	192.5	261	326	368	404.5	405.5	426.5	427	434	447.5	615
1990	10.5	18.5	26.5	47	79	95	98	114	122.5	126.5	161	211	226	250	254.5	257.5	272	342	418.5
1991	9	17	21.5	29.5	37	42.5	61	86.5	113	135.5	136	155.5	230.5	273.5	279	279	295	367.5	427.5
1992	17.5	25.5	33	55	91	162.5	214.5	235.5	291.5	347	347.5	348.5	415.5	434	439.5	439.5	442	528.5	693.5
1993	9	16	22	43	74	96.5	108	119	122	155	218.5	272	440.5	526	584	598.5	598.5	736	824
1994	13	24	31.5	55.5	87.5	115.5	147	154	170.5	280	297.5	324	521.5	652.5	686	699	708	975.5	1228
1995	16.5	29.5	41	58	77	90	130.5	137.5	145.5	218.5	285	342.5	391	473.5	493	495	495	892	1273
1996	10.5	20	24.5	40.5	69	90	113.5	139.5	147.5	171	210	267	355.5	392	392.5	392.5	430.5	526.5	648
1997	13	20.5	29	43	76	95.5	108.5	119	131	160.5	197.5	238	299	344.5	372	380.5	393.5	579	1063
1998	20.5	38	48.5	60.5	65.5	104	154	186	267	353	387.5	408	454	533.5	542	544	597.5	690.5	959.5
1999	14	24	33	47.5	68.5	95	149.5	180	197	201	244	295	538.5	566	596.5	597	621	728	932
2000	13.5	26	37	66.5	103.5	157	238	238.5	238.5	244.5	245	245	262	331	387	387	389	538	689.5
2001	16.5	32.5	41	54	80	105	132	147.5	149	168.5	187	198	266	395	461.5	475.5	645.5	785	1436.5
2002	14	22.5	29	42.5	66	113.5	125.5	147.5	190.5	226.5	262.5	266.5	338	542.5	567	571	666	784	828
2003	11.5	19.5	27	44	66	99	111.5	119.5	127	137.5	153.5	172.5	267.5	294	302.5	348.5	390.5	492	748.5
2004	12	21.5	31	52	77.5	84.5	107	115	116.5	118.5	127	146.5	166	187	196.5	211	242.5	345.5	485.5
2005	16.5	27	37.5	70.5	98.5	120.5	170.5	190.5	191	239.5	354	465	612	661	705.5	742	817.5	1015.5	1295.5
2006	16.5	29.5	38.5	70	125.5	188	215.5	218	218	218	218	220.5	228	295	299	320	371	525.5	769
2007	11	19	26	33	47	68	68.5	84	93.5	104	119.5	152	172	217.5	237	255	290	406.5	601
2008	15.5	31	41.5	64	119	176	252.5	270.5	285.5	292.5	334.5	416.5	441	442	490.5	511	578	874	1456.5
2009	11	19.5	25.5	43	60.5	80	102.5	104	104.5	141	152.5	156.5	188.5	212.5	212.5	229	254.5	342.5	554.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge H14 at Wo Hing House, Hing Wah Estate

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	13	23	29.5	41	54.5	85.5	95	98	100	134.5	134.5	140.5	150	185.5	194	194.5	202	371.5	526
1985	10	18.5	25.5	42	55	60	83	104.5	112.5	124.5	134.5	182	208	229.5	269.5	275	315.5	460.5	692.5
1986	14.5	28	38	55.5	75.5	111	122	128.5	128.5	134.5	157	182	208	233	249.5	249.5	313.5	428.5	576.5
1987	11.5	23	29.5	50	72.5	85	89	100.5	129.5	154.5	199.5	210	270	349	355	452.5	511	625	746.5
1988	11	18	24.5	36.5	41.5	52	80	82.5	84.5	85	106.5	147.5	168.5	194.5	207	225.5	267.5	353.5	547.5
1989	8	16	21	31.5	39	53	77	90	103	130	145.5	162.5	183.5	185	188	192	202.5	243.5	363
1990	9	14.5	17.5	29.5	36	42	54	66	68	74.5	102.5	141.5	154.5	181.5	185.5	188.5	189	270.5	371
1991	11	19	25	29.5	54.5	82.5	101.5	107.5	139.5	179.5	184	184	250.5	299	300	300	300	362.5	433.5
1992	11	21	31.5	60	109.5	142.5	161	179	199.5	220.5	220.5	221	256.5	267.5	277	277	367.5	416	518.5
1993	14.5	28	37.5	63.5	97.5	133.5	159.5	169.5	175	184	195	212	335	398.5	479.5	499.5	499.5	632.5	708
1994	11	21.5	32	58	80.5	93.5	143.5	148.5	150	156.5	190.5	198.5	324	478.5	519.5	536.5	563.5	800.5	1041
1995	12.5	23.5	35.5	52	94.5	128.5	223.5	226.5	238.5	298.5	392	460	503	573	598.5	598.5	598.5	1147.5	1414
1996	11	22	31.5	47	59	78.5	103.5	143.5	156.5	184	214.5	280.5	351	384	385.5	393	411	562	696
1997	12	20.5	29.5	45	77	116	172.5	202	213.5	223.5	243	271	368	402	498	537	547	677	1228.5
1998	13.5	26.5	38.5	50.5	68.5	90.5	124	149	167.5	183	220.5	229.5	276	349.5	363	377	433.5	561.5	877
1999	8.5	17	22	35.5	66.5	91.5	112.5	127.5	137	140	169.5	182	336.5	344.5	363.5	365	370	516.5	705
2000	14	25.5	32.5	49.5	69.5	115.5	181.5	183	186	189	193	193	209	278.5	298.5	299	314.5	454	709.5
2001	15.5	25.5	29	47.5	62	85	121.5	167	169	174.5	189	208	271	359	435	439	544	817	1093.5
2002	11	20.5	29.5	43	64.5	83.5	115.5	135.5	160	183.5	209.5	256	357.5	513	558	562	608	692.5	737.5
2003	12.5	23.5	28.5	52.5	83	127	144	158.5	220.5	234.5	236.5	252.5	331	366.5	388.5	429	482.5	583.5	703
2004	10.5	19.5	28	44.5	62.5	89	110	110	138.5	141.5	141.5	141.5	144	153.5	177.5	192.5	234.5	338	496
2005	19	27	35	56.5	87.5	135	153.5	169.5	179	184	211	287	425.5	475.5	534	598	659.5	878	1095
2006	11.5	20	29	48.5	69.5	98.5	178.5	204	208	250.5	272	277	294.5	314.5	316.5	316.5	349	391	590.5
2007	12	22.5	24	35.5	48	68.5	72	83	98.5	110	120	159	181	241.5	263	276.5	299.5	413	583.5
2008	10.5	20.5	29	51.5	82.5	128	208.5	212	212.5	213.5	244.5	325	340.5	347	379.5	386.5	478	707.5	1207
2009	11.5	22.5	29	47	58	59.5	86.5	89	106.5	111	170	189.5	231	250	250	259.5	274	361.5	674

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge H15 at St. Stephen's College, Tung Tau Wan Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hou	18-hou	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	9	18	24.5	42.5	70	95	99	101.5	102	102.5	116.5	127.5	162.5	216	227	231.5	234.5	376	536
1985	16.5	32.5	41.5	57	64	93.5	112.5	135	144	146.5	154.5	164.5	266	279	333	333.5	403	588	881
1986	15	21	28	45	71	86	88.5	111.5	126.5	145.5	186.5	209	244	246.5	259.5	259.5	288	437.5	588.5
1987	16	28.5	35	53	80	119.5	127.5	135.5	135.5	150.5	252	254.5	256	258.5	261	266	449.5	555.5	781.5
1988	10.5	18.5	23	30	52.5	70	96.5	102	109	120	141.5	178	203	281	300.5	305.5	331.5	410	716.5
1989	17	24	35	52	69.5	101.5	156	168	169.5	178.5	214	235	256.5	256.5	258	263	267.5	306.5	568.5
1990	11.5	18.5	24.5	32.5	33	35.5	45.5	73	80.5	91.5	113	137.5	147.5	195	200.5	202	204.5	270.5	343
1991	14	26.5	38	53	77.5	96.5	102.5	108.5	144	151	151	151	154	176	202	229	277.5	399.5	504.5
1992	12	20.5	28	40	67.5	125	161	207	238.5	266	266	267	306.5	320.5	327	327	327	394	519.5
1993	9.5	16	21.5	33.5	40	57.5	98.5	122.5	129	162.5	206.5	263	414.5	510.5	567.5	579.5	579.5	704.5	737
1994	13	22.5	28	47	60.5	77	128.5	166.5	184	219	239.5	279.5	423	528.5	568.5	580.5	594.5	861.5	1158
1995	15	27.5	40.5	64.5	99	161.5	193.5	195.5	198	236	267	333	384.5	458.5	484	484.5	484.5	912	1174
1996	12	20.5	28	43.5	68	86	118.5	121	154	175	200.5	248	365.5	407.5	409.5	414.5	420.5	503.5	710.5
1997	14	22	32.5	61	86	152	166	188.5	214	226	246	266.5	365.5	379.5	480	530	537	662	1116.5
1998	11	21.5	26.5	34	56.5	76.5	81	85.5	96	102.5	120	134	184	246.5	259.5	269.5	339	415.5	668
1999	12	20.5	26.5	47.5	69.5	118	147	166.5	178.5	181	214.5	229	405.5	414.5	432.5	434	439	636	767
2000	21.5	39	47	76	123	189	348.5	370.5	376	380	385.5	385.5	391	454.5	486.5	486.5	486.5	610.5	842.5
2001	13.5	26	37	61	79	111.5	119.5	157	159	166	170	196.5	251	321	389.5	396	532	740	1081
2002	18.5	30.5	41.5	57	97.5	103	137	144	146	159	180	190.5	266.5	416.5	443.5	451	513.5	555	598
2003	15.5	30	43.5	67	91.5	112	154	200.5	257	265	266.5	281	356.5	392.5	409	440	480.5	563	650.5
2004	11	19	24.5	32.5	43	58	72.5	100.5	115	119	119	119	123	137	149	171.5	199	288	420.5
2005	10.5	21	30	46	57	68	92	97.5	99.5	130	151.5	200.5	309.5	348	384	411	428	622.5	842
2006	14	28	39.5	56	94	112.5	127	157	160.5	184.5	191.5	198	219.5	235	236	236	256	377.5	592
2007	11.5	18.5	24.5	35	46.5	56.5	70.5	85.5	97	120	143.5	177.5	191	248.5	258.5	258.5	285	387	542.5
2008	15	28.5	40	53	62.5	71.5	134	144	155	163.5	189	235.5	243	249.5	286	299.5	367.5	567.5	985
2009	11.5	21	29.5	43.5	74	83	104	104.5	110.5	118.5	181	204	270	306.5	306.5	312	342	381.5	562

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge H16 at Peak Primary School, Plunkett's Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hou	18-hou	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	11	19	26	43	46	69.5	103	121.5	139.5	143	143	145.5	184.5	196	197	214.5	239.5	392.5	490
1985	12.5	24	29	41.5	59	66.5	77.5	95	102.5	112	128	144	214	221.5	264.5	272.5	292.5	489	770
1986	13.5	26	35	50	85	101.5	114.5	117.5	117.5	120.5	148.5	178.5	231.5	234	234.5	234.5	241	344.5	532.5
1987	14	25	33.5	55	87.5	100	116.5	128.5	135.5	164.5	204	214.5	284.5	356	367	414	514.5	702	794.5
1988	14	27	39	61	76	95.5	137.5	143.5	147	147.5	162.5	206.5	246.5	250.5	253.5	265	287	343.5	633
1989	8.5	15.5	22.5	38.5	46.5	62.5	101	133.5	165	231	294	329.5	360	361	373.5	374	379.5	388	546
1990	11	15.5	21.5	38.5	59	62	84.5	113.5	121.5	131	177	238	264	288.5	295.5	297.5	302	370	467.5
1991	8.5	14.5	19	29	34.5	44	62.5	88	113	135	135.5	156	229	266.5	266.5	267.5	272	352	415.5
1992	13	23	32	49	88	159	199.5	219.5	273.5	322.5	323	324	380	400	404	404	404	489	608
1993	18	30	37	48	52	57.5	77.5	92	113.5	142.5	209	260	423	513.5	570.5	587	588.5	741.5	824.5
1994	12	22	32	55.5	86.5	129.5	169.5	186	197	253	286	337	538	709.5	784.5	814.5	826.5	1104.5	1378
1995	13.5	25	33	60.5	94.5	106	138.5	140.5	152.5	211.5	265	322.5	379	474.5	502	504.5	504.5	955	1301
1996	13.5	18.5	24	39	61	83.5	107	115.5	121.5	142	178	224.5	314.5	354	358.5	364.5	388.5	484.5	659
1997	16.5	24	34	57.5	75.5	98.5	140	148	153	167	200.5	244	296	370	398.5	419.5	421.5	597.5	1101.5
1998	15.5	31	36.5	44.5	69	98	150	179.5	237	278.5	305	326	367.5	439	447	450.5	499	575.5	821
1999	14.5	22	29.5	44.5	64	97	138	162.5	176.5	180.5	240	276	502.5	520.5	542	543	566	685	892
2000	14	27.5	37.5	68	110	167.5	252.5	253	253.5	258.5	261	261	278.5	367	423	423	423.5	584.5	766.5
2001	13	25	33.5	46	79	110.5	140	158	159.5	170	200.5	212	275	400.5	463.5	474	659	791.5	1427.5
2002	12	21.5	27	42.5	63	95.5	123.5	161.5	216	257.5	295.5	299.5	372	479.5	500	504	606	703	733.5
2003	10.5	18	24	39.5	51	78.5	89	96.5	99	109.5	127.5	153	239	262.5	278.5	339	386.5	519	638.5
2004	11.5	21.5	28.5	48.5	70.5	108	112	112.5	112.5	122.5	137.5	148	173	196	205.5	225	261	347.5	453.5
2005	13.5	23	32	53	71.5	93	140.5	171	181	227	328.5	431	567	610	656	678	756	967	1283.5
2006	18	35.5	51	88	146	198	205.5	252	252	252.5	254.5	254.5	254.5	262.5	264.5	332.5	334	469	670
2007	11.5	18.5	23.5	39.5	49	60.5	63.5	87.5	91.5	126	126.5	135.5	138.5	181	197.5	234	279	379	623
2008	21.5	32.5	41.5	75.5	134	194.5	293	304.5	318.5	325.5	384	468	486.5	487.5	541	552.5	631.5	943	1627
2009	10.5	18.5	22.5	41	63.5	85	97	104.5	110.5	151	164	168	179	190.5	211	211	218.5	386	632.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge H17 at Magazine Gap Road Fresh Water Pumping Station

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	10	19	23	31.5	44.5	66	90.5	104.5	124	127	127	130	163.5	190	195.5	196	230.5	392	597
1985	11	21.5	29.5	44	63.5	93	135.5	177	194	210	219.5	247	268	275.5	284.5	284.5	299.5	448	708.5
1986	12.5	23	32.5	47.5	83.5	112	123.5	126.5	126.5	138.5	168.5	190.5	232.5	235	235.5	237	271.5	454	610
1987	10.5	20	28	43	67.5	81.5	96	104.5	110.5	125.5	163.5	176	230	296.5	302	344	432	550.5	618
1988	12.5	23	33.5	56	72	91	134.5	139.5	142.5	142.5	161.5	204	235.5	237	237	254.5	264	301.5	578
1989	9.5	17	23.5	31	58	84.5	118.5	126.5	178	244.5	297	332	365.5	365.5	382	382	387.5	401.5	604.5
1990	9.5	17	21.5	37.5	57	64	73	96	101	110.5	160.5	206	224.5	246.5	252	253	260.5	337.5	442.5
1991	10.5	19	22.5	32.5	38	46.5	64	91	107	125.5	126	158.5	226	266	269.5	269.5	276	380	441
1992	17	23	31	50.5	90	157	203.5	223.5	273	320.5	320.5	321	384.5	404.5	411	411	419	498	675
1993	16.5	24	32	54.5	84.5	104.5	116	127	147.5	188	248	312	500	596.5	657.5	673	673	877.5	953
1994	16.5	30	42	69.5	102.5	137.5	146.5	162	172.5	248	270	310.5	489.5	667.5	702.5	721.5	737	1041	1287.5
1995	14	24.5	37	57.5	79	90	151.5	154	164	242	328	391	441.5	535	559.5	561.5	561.5	977	1255.5
1996	10	19.5	26	41	62.5	78.5	105	132	137	163	198	251	331.5	375.5	382.5	387	409.5	522.5	663
1997	14.5	24.5	33.5	55	78.5	104.5	138	151	162.5	171	203	228.5	284.5	359	388	404.5	408.5	641.5	1127
1998	18	32	41.5	52	63.5	98.5	146	176	233.5	269	295.5	317.5	355.5	430.5	439	442	484	570.5	807.5
1999	13.5	25.5	32.5	46.5	69	102.5	153.5	180.5	197	201	243	269.5	501.5	526.5	548.5	550	561.5	695.5	891
2000	16.5	29	41	73	110.5	159.5	257.5	259	259	262.5	264	264.5	279	359.5	386.5	387	387	531	781.5
2001	13.5	25	29	47	74	99.5	129	146.5	148	168	183	193	249.5	385	442	451.5	639	777	1396.5
2002	11.5	21.5	30	47.5	73.5	106.5	123.5	141.5	166	197.5	236.5	245	310	500	539	542	642	759	800.5
2003	10.5	18	22	30	42	64.5	74	80.5	91	109.5	134.5	166	231.5	265	265	322.5	372.5	491	723
2004	13	21.5	29	47.5	67	88	91.5	92	105	113.5	129	139	161.5	183.5	194.5	214	245.5	343.5	491.5
2005	15.5	22.5	28.5	41	63	96	136	173.5	195.5	251	371	486	639	681.5	725	761	837	1038	1356
2006	22.5	39.5	52.5	92.5	137.5	187.5	198.5	231.5	232.5	232.5	233.5	233.5	234	295	300	314	342	509.5	750
2007	10.5	18	22	38.5	49.5	60.5	62.5	85	88.5	124	124.5	143	158.5	202.5	237	271	295	369	649
2008	15.5	27	37	65	117.5	171.5	273	285	298.5	306.5	360.5	434	451.5	452	507	519.5	597	920	1628
2009	13	19	24.5	45.5	59.5	86.5	105	112	114	153.5	164.5	169	209.5	221	224	247	263	381.5	633.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge H18 at Shanghai Alumni Primary School, Hong Shing Street,

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	11	19.5	25.5	35	49.5	67	97.5	115.5	133	144	146	148.5	172	211	218	220	234	415	599
1985	10.5	19	26.5	48	66.5	93	128.5	170	184.5	199.5	211	253.5	278.5	285	288	288.5	303	458	687
1986	10.5	21	28.5	50.5	85.5	116.5	133	140.5	140.5	142	177.5	204	241	269.5	279.5	279.5	315.5	436.5	574.5
1987	14.5	23.5	31.5	52.5	73	88	90	99	105	115.5	131.5	163	196	201	201	201.5	262.5	374.5	623.5
1988	9	16.5	22	35	59	75.5	94.5	97	109.5	109.5	140.5	196.5	218	218.5	224.5	228	236.5	309	569.5
1989	13.5	23.5	33	52	71	83.5	144.5	145	159	224	250	277	304.5	306.5	316.5	318	322.5	383.5	577.5
1990	9	15	19	30	45.5	68	102	109	111	115.5	122.5	134.5	144.5	166.5	189	189	202	322	420.5
1991	8	14	19	28	51	85.5	110	118	131	136.5	142.5	197.5	301	322.5	322.5	322.5	322.5	322.5	331.5
1992	14	27	38.5	69.5	123.5	173	198	213.5	262	302.5	302.5	303.5	350.5	364	377	377	378	454	662
1993	10.5	17.5	23.5	44	62.5	95.5	103.5	112.5	116.5	133.5	198	232	354	423.5	488	499.5	499.5	618.5	713.5
1994	13.5	25.5	35.5	66.5	94.5	110.5	160.5	164	164.5	212	237.5	262.5	433.5	607.5	665	687.5	722.5	1023.5	1240.5
1995	12	22	28	51	70	92.5	159.5	163.5	172.5	253.5	333	390.5	454	529	558.5	559	559	1079	1333.5
1996	10.5	19	24.5	39	61	77	102.5	156.5	165.5	188.5	222	270.5	348	390	393.5	396	425	546.5	667
1997	13	22	29	53.5	75	103	146.5	168.5	173.5	183.5	212.5	237.5	351	433	483.5	526	533.5	687.5	1252
1998	18.5	34.5	46	63	79	95.5	114	166.5	187	224	251.5	280.5	312	365.5	375	383	433.5	560.5	868
1999	11	19	27	40.5	67.5	103	138	159.5	171.5	176	224.5	263	498.5	545	563	564.5	581.5	713.5	987.5
2000	12.5	23.5	30	43.5	66.5	93.5	157.5	159	159	164.5	165.5	187.5	235.5	293.5	380.5	386.5	420.5	429.5	715
2001	17.5	28.5	38.5	51.5	59.5	85	112.5	155.5	157	173	188	206	269.5	391	456	474.5	608	868.5	1339.5
2002	10.5	20	24	43.5	77.5	139.5	160	162	173	195.5	220.5	270	386.5	568	605.5	613.5	686.5	829	855.5
2003	12.5	24	33.5	59	79	89	107.5	108.5	131.5	145	173.5	179.5	276	342.5	343	368.5	424.5	538.5	803.5
2004	13.5	24.5	35	63.5	92	101	112.5	118	122.5	125.5	125.5	130.5	152	175	186	198	229	351.5	517
2005	10.5	20.5	30	52.5	84.5	125	162	175.5	194.5	215	307	388	538	608	643	700	724.5	948	1184.5
2006	12	23.5	32.5	49	81.5	129	184.5	211	215	255	277	280	326	344	348.5	348.5	361.5	445.5	647.5
2007	13	24	32.5	49	54.5	72.5	75.5	76	82	97	106.5	147.5	203	280	294	306	328	437	631
2008	13.5	25.5	36.5	66	112	141	243	257.5	271.5	282	320	410.5	430	436	472.5	478	555.5	924	1527.5
2009	11	19	26	47	56	60	88	107	134	145	206	229.5	284.5	309.5	309.5	325.5	339.5	383	565

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge H19 at Salesian English School, Chai Wan Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	11	18.5	26	36.5	41	65.5	92.5	103.5	112.5	130.5	131.5	134	160	197	205	210.5	223.5	401.5	559.5
1985	10	17	24	41	51	81	115	148.5	163.5	177.5	187.5	228	249.5	253.5	256	259.5	287	448.5	688.5
1986	13.5	24.5	33	49.5	64	100.5	111.5	118	118	128.5	151	174	203.5	232	244.5	244.5	284.5	392	537
1987	9	17	24	36	52.5	65.5	73.5	81.5	114.5	126	170.5	190.5	225	300.5	303.5	373.5	451.5	517.5	614.5
1988	9	17.5	25	45	57	69.5	84	95	98.5	111.5	123.5	193.5	217.5	218	229.5	232	258.5	342	575
1989	10.5	21	28.5	42.5	53	60.5	98.5	107.5	123.5	181	208	232.5	254.5	256.5	264.5	266	272	307.5	467.5
1990	9.5	13.5	19	25.5	38.5	58	92.5	99.5	102	107.5	113.5	145	156	177	181.5	187	188	311	414.5
1991	10.5	17	24	34.5	62.5	93	112.5	118	143.5	190	195	195	315	367	367.5	367.5	367.5	367.5	427.5
1992	18.5	31.5	43	76.5	144.5	193.5	222.5	240	288	334	334.5	335	384.5	403	413.5	413.5	449	524.5	753
1993	11.5	19	26.5	51	76.5	112.5	125	134.5	140	149.5	230	264	416.5	501.5	577.5	597	597	748.5	836.5
1994	9.5	18	26.5	44.5	71	102	154	159	159.5	166.5	203	205.5	315	479	523.5	539.5	566.5	793	1023
1995	15.5	26	29	40.5	73	100.5	193.5	198.5	209	274.5	366	419	481	571.5	597.5	597.5	597.5	1194	1440.5
1996	12.5	24	30.5	44	57	73.5	93.5	152	163	184.5	214	261	341.5	378.5	383.5	389	413	537	688
1997	12	23	30	44.5	76	108.5	148.5	171.5	180	189	217	242	340	434	467	523	530	663.5	1232.5
1998	18	30	41.5	59	66	92	127.5	160.5	182	212	250	288	330.5	391	404	415.5	465.5	589.5	912
1999	11	20	26	39.5	57.5	86	128	149	160.5	164.5	208	229	432	465	486.5	488	496	681.5	943
2000	13.5	21.5	29	47	69	108.5	169	171	172.5	176.5	178.5	179	191	257	306	322	354	409.5	657.5
2001	18.5	29	36.5	47	61.5	77	118.5	167.5	169	173.5	188.5	210.5	264	381.5	451.5	455.5	550.5	804.5	1157.5
2002	12.5	23.5	31	54	92.5	131	153.5	155	171	196.5	221.5	272	366.5	534.5	574	582.5	630.5	740.5	767
2003	10.5	20.5	28	46	73	100.5	122.5	125	162.5	176.5	181	189.5	297	333	352	399	426	535	707.5
2004	13	25	34.5	55.5	76	85.5	98.5	99	129	134	134	134	139.5	157.5	173	182.5	230	329.5	491.5
2005	14.5	27	36.5	59.5	76	101.5	116	137	151.5	198	283	367.5	522	585	636.5	689.5	734	958.5	1170.5
2006	15	26.5	36	53.5	69	111.5	198	227	231	277	301.5	305	317.5	344	347.5	347.5	373	449.5	638
2007	12.5	19.5	26.5	44	52.5	74.5	77	83.5	96.5	107	121.5	158	201.5	276.5	290.5	307.5	328.5	435.5	644
2008	13.5	26	39	67	110.5	139	213.5	242.5	255.5	266	304.5	400.5	418	427	458.5	462	540	880	1527.5
2009	11.5	18.5	28	44	57.5	70	92.5	97.5	99	117.5	159.5	177	222.5	239.5	239.5	251	261	325.5	586.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge H20 at Lei Chak House, Ap Lei Chau Estate

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	9.5	17.5	25	37	45.5	53.5	80	83	96.5	100.5	127.5	151	159.5	163.5	168	171.5	176	316.5	482.5
1985	9	13.5	21.5	32	51	59	75	80	86	92	105	114.5	191	194	245.5	248.5	255	451	674
1986	11	19.5	27	41.5	64.5	70	79.5	82.5	82.5	96	117.5	143.5	180.5	185	193	193	224.5	318.5	428.5
1987	12	22.5	26	42.5	59.5	74	86.5	97	103.5	112	120	163.5	188	230.5	238.5	285	351.5	402	493
1988	11.5	23	33	56.5	79	97	136	141	145	145	148.5	174.5	209.5	213	222	227.5	232	278	538
1989	8.5	14.5	18.5	28.5	38.5	63	90	121	153	208	268.5	301.5	336.5	336.5	343.5	343.5	346	351	469
1990	11	17	20.5	27	38.5	56	63.5	89.5	92	99.5	120.5	152	165.5	188.5	196	197.5	197.5	253	329.5
1991	11.5	20.5	25	38.5	58	88.5	93.5	108.5	109	123	123.5	138	201.5	227	230	231	232.5	400	453
1992	12	19	25.5	44	77.5	128	148.5	170.5	221	249	249	250	308	322	327	327	327	386	517
1993	16.5	24.5	32	50.5	68	74	84.5	94	108	142.5	202	241	378.5	449	498	518.5	518.5	683	735.5
1994	11	21.5	31.5	59	76	101.5	150.5	162	168.5	174.5	203.5	275	405	589	627	669.5	682.5	913	1143.5
1995	11.5	21.5	30.5	55	73.5	105	174.5	175	180.5	215.5	251.5	315	363	453	477.5	477.5	477.5	907.5	1223
1996	11.5	21	30	57.5	95	128.5	152.5	154.5	156.5	182	207.5	253.5	383.5	414.5	418.5	419.5	420.5	520	685
1997	15	19	25	41	67.5	91.5	106	116	120.5	143.5	170.5	189	206.5	296	347.5	381	382	528.5	930.5
1998	11.5	22	31	46	58	91.5	118.5	154.5	175	186.5	213	224.5	259.5	329	338	338.5	389	474	697
1999	15.5	25	33	48	83	103.5	145	169.5	182.5	184.5	222.5	254	485	491.5	504.5	506.5	530	654	811
2000	12.5	24.5	35.5	59.5	94.5	134	194	197	204.5	205	212.5	212.5	214	306.5	362	362	362	490	720.5
2001	12.5	23	32	52.5	100	137	141	144	145.5	153	173.5	183.5	241.5	342.5	400.5	404.5	547.5	732	1120
2002	10.5	19.5	27	44.5	70.5	105.5	121.5	177	233	274	303	306	358.5	494	526	530	599	712.5	721.5
2003	10	17.5	23	31.5	43.5	49	62.5	64.5	76	90.5	114	136	192.5	221	233	276	325.5	431	576
2004	16.5	27.5	34	46.5	76.5	125.5	135	135	135	135	135	136	141.5	162	200.5	200.5	204	322	451.5
2005	14.5	25	35	46	60.5	99.5	118.5	129.5	140.5	177.5	238	318	425	475.5	513	534.5	587.5	802	1043.5
2006	17.5	34.5	48	89	140	162.5	172	191.5	202.5	205.5	207	207	207	273	274.5	274.5	303	480	638.5
2007	12.5	20.5	26.5	42.5	55.5	68.5	70.5	82	84.5	110.5	112	132.5	147.5	185	200	201.5	254	355	520
2008	12.5	22.5	32.5	56.5	84	110	203.5	216	225	230.5	282	355.5	367	368	405.5	409.5	465	738	1244.5
2009	11.5	18	22.5	34.5	48	62.5	70	78	82.5	106.5	119.5	123	158	180.5	193	196.5	210	323.5	559

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge H21 at Block B, 101 Repulse Bay Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	10	15	21	34	48	54.5	64	81	99.5	114.5	131	149.5	158.5	196.5	205	207.5	211.5	409.5	531
1985	11.5	20.5	29	45.5	68	82	95	99.5	109	119.5	131	140	184.5	188.5	232	233	266	425	685.5
1986	9	14.5	20.5	35	57.5	66.5	73.5	77.5	88.5	102.5	130.5	141.5	206.5	210	210	218.5	219.5	355.5	513.5
1987	15.5	26.5	32.5	52.5	71.5	81	81.5	84.5	88.5	107	144.5	162	213	292	302.5	389	428.5	509	623.5
1988	10	16	20.5	33	50	67	94.5	99.5	111.5	111.5	124.5	170	189	194	198	200	206	281	538.5
1989	10	20	27	40	44	64.5	104.5	144.5	173.5	231	273	299	326.5	327	330	330.5	336	354	474.5
1990	8	12.5	17	26.5	38	46.5	69.5	75.5	78	85	103	105.5	112	115	116	116	118.5	185.5	262
1991	9.5	17	22	32.5	56.5	76	78.5	93	121	149.5	151	151	156.5	183.5	185	187	224.5	341.5	425
1992	12.5	17	21.5	37	49	98	118.5	151.5	181.5	210.5	211	211.5	248.5	266	273	273	273.5	329.5	450
1993	14	24	32	56	81.5	88.5	102.5	130.5	151	191.5	236.5	293	439.5	525	586.5	601.5	601.5	743	797
1994	10.5	20	28	49.5	70	75.5	129.5	130.5	131	143	166.5	201	344	475	508.5	520	532	810	1048.5
1995	12.5	22	30.5	50.5	79	133.5	215	216	223	260.5	313.5	395.5	445	523.5	544.5	544.5	544.5	984.5	1282
1996	10	18.5	25.5	47.5	75.5	97	121	123.5	130.5	158.5	202	247.5	344.5	398	398	399.5	458	583.5	686.5
1997	11.5	21	31	46	76	100.5	157	193	204.5	215.5	230.5	246.5	339.5	351.5	437.5	478.5	483.5	590.5	1003
1998	10	18.5	26	47	68.5	81	95.5	114	127.5	139.5	160.5	168.5	207	260	268.5	277.5	343.5	442.5	646
1999	10.5	19.5	28	43.5	76	100.5	130.5	151.5	162	164.5	200.5	212	378	384.5	399	400.5	415.5	568	724
2000	17.5	31	41.5	73	118.5	187.5	319.5	328.5	339	340	347	347	355.5	434	461	461	461	600	894.5
2001	15.5	30.5	45	77	94.5	114.5	116.5	137.5	139	147.5	158.5	172.5	267.5	313.5	432.5	438	565.5	832	1217
2002	13.5	22	29.5	43.5	57	67.5	102.5	125.5	168	181.5	206.5	209.5	299	464	485.5	493.5	560	674.5	695.5
2003	15	25	35	49	67	83.5	88.5	89	111.5	121.5	122.5	151.5	224.5	257	268	307.5	396	487.5	678.5
2004	13	21	27	45	64.5	77.5	87.5	87.5	96.5	99	120	132.5	142.5	155	164.5	195	215.5	302	486.5
2005	14.5	27	36	51.5	59	79	109	126.5	139	172	240	320	455.5	490	532	565.5	614	831.5	1168.5
2006	18	31.5	40.5	58.5	88	92	151	181	184.5	216.5	226	232	240.5	253.5	257.5	268	315	427.5	568.5
2007	14	21	27	36	38	49	68	85	87	116	134.5	145	160	215.5	229.5	239.5	250	333.5	523
2008	13.5	23.5	32.5	55	73.5	103	139	170	173.5	181.5	223.5	300.5	308.5	317	352	374.5	424.5	725	1212.5
2009	13.5	24.5	29.5	44	57	76.5	130.5	133	136	137	165.5	191	249	284	284	303.5	339	348	571

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge K01 at Civil Engineering Building, 101 Princess Margaret Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	11	16.5	20	38.5	76.5	146	222	229	231.5	241	246	248	248	253.5	280.5	295	296.5	366	714
1985	8	14.5	20.5	37.5	61.5	87.5	128.5	156.5	161	171.5	180.5	209	238.5	249	259.5	260	284.5	419	674.5
1986	10	18.5	25	40	68.5	109.5	129.5	133.5	133.5	143	173	208	219	243.5	256	269.5	317.5	554.5	684
1987	7	13.5	19	34.5	50	68.5	85.5	125.5	132.5	134	138	165.5	177.5	183	215	215	231	288.5	493
1988	9.5	16.5	24	34.5	45	70.5	106	112.5	116	116	136	177	205	209	209.5	209.5	209.5	287	538.5
1989	10	13.5	17	27.5	42.5	59	68.5	70	72	80	95	97	113	114	128.5	129.5	133.5	177.5	233.5
1990	12.5	15	16	26.5	34	49	70.5	74.5	82.5	91.5	136.5	161.5	165.5	169	171	196	199	289	365.5
1991	6.5	12	17	25	26.5	31	37.5	48.5	58	73.5	81	86	118.5	136	139	139.5	140	143.5	205.5
1992	17.5	27	38.5	65	106.5	149	173	186	224.5	290	290	291	331.5	344.5	348.5	348.5	350.5	492	694.5
1993	12.5	19.5	24	45.5	80.5	114.5	126	138	144.5	152.5	196	245.5	376.5	445.5	506	525.5	527	718.5	826.5
1994	13.5	25	33.5	53	83.5	102	137	141.5	157	280	301.5	313.5	490.5	621.5	678.5	709.5	725	942.5	1236
1995	11.5	21	29	53	78	118	205	215	224	283.5	300	326	389.5	465	538.5	542.5	542.5	918.5	1236
1996	13	25.5	30.5	40	59.5	63.5	69.5	106	116	143.5	176.5	203.5	282	332.5	335	345	384.5	551	673
1997	11.5	20	30	50.5	81	128.5	175.5	210	213	219	236.5	256.5	313.5	339.5	366.5	384.5	386.5	704	1279
1998	18	29.5	41	62	71	123.5	168.5	196.5	243	372.5	424	446.5	481.5	550	558	559.5	604.5	728.5	982.5
1999	11.5	19	26	40.5	64.5	96.5	132.5	163	176.5	188.5	264.5	316	547.5	633	652.5	652.5	664.5	772.5	1000.5
2000	12.5	24.5	31.5	48	72.5	102.5	151.5	170.5	177	180.5	194.5	203	214	236	251.5	262	336	413.5	614
2001	18.5	31.5	37.5	42.5	67	94	121.5	135.5	137.5	166.5	190.5	191	305.5	365.5	434	469	639.5	801	1388
2002	13	23	32.5	48	76	121.5	143	171.5	190.5	210.5	234.5	240	369	555.5	576.5	589	667.5	808.5	834.5
2003	12.5	21.5	33	52.5	76	112	126.5	137.5	140	146	159.5	181.5	276.5	296	310.5	353	387.5	510	794.5
2004	16	29	41	69	94	103.5	134	142	147	149.5	149.5	149.5	159	173	182	194	236	391.5	589.5
2005	11.5	21.5	28.5	45.5	79.5	129.5	175	193.5	194	239	347.5	442	587.5	623	695.5	747.5	799	992.5	1264
2006	14	25.5	36	66	115.5	165	188	189.5	191	228.5	261	263.5	304	306	313	357	415	524	764.5
2007	9.5	18.5	26.5	39.5	54	64.5	66.5	69	74.5	98.5	108	138	152.5	192	222.5	231.5	258.5	384.5	561.5
2008	12.5	23.5	34.5	62.5	114	193	266.5	299.5	314.5	324.5	366	447.5	472.5	472.5	520	534	597	942.5	1562.5
2009	11	21	28.5	38	49.5	72.5	102.5	117	137.5	148.5	186.5	211.5	257	278.5	278.5	286.5	299.5	348	566.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge K02 at Block 25, Lung Cheung Court, 15-17 Broadcast Drive

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hou	18-hou	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	13	26	35.5	57.5	84	139.5	211	216.5	218.5	225.5	226.5	232	234.5	237	258.5	267.5	305	409	711
1985	12.5	19	27	45.5	85	109	125.5	137	144	159	180	191.5	282	292	301	301	337	505.5	813.5
1986	11	18	22.5	37.5	52.5	87	122.5	149	155.5	157	177	225.5	228	249.5	259.5	259.5	300.5	556	716.5
1987	12	18	24	39.5	62	82	91.5	100.5	108.5	117	129	167	196.5	227.5	227.5	227.5	232.5	271	530.5
1988	9	15.5	19.5	28.5	42.5	61.5	81.5	94.5	100	102	115.5	136	161.5	170	181.5	249.5	297	379.5	629.5
1989	19	26.5	29	39.5	70.5	110.5	162	170	210	298	339	375	427	430	440.5	442.5	448.5	465	777.5
1990	14	20	24	35.5	46.5	52.5	92.5	110	113.5	114	130	148.5	158	175.5	178.5	187	190	264	377
1991	10	17	23	36	50.5	58.5	61	70.5	87.5	101.5	118	122	180.5	222	222	223.5	227.5	309.5	417
1992	15	27	38	66.5	99	142.5	158.5	175.5	205.5	280	280.5	281	318	329.5	333	333	354	453.5	600
1993	12.5	20.5	26.5	47	84	132	148	161	172.5	188.5	237.5	296	445.5	518.5	574	582	582	802	910.5
1994	14.5	21.5	28.5	47	74	97	153.5	159.5	189	285	307	314	462.5	596.5	660.5	687	704.5	921	1280.5
1995	13.5	25.5	37	52.5	72.5	99.5	144	151	166.5	208.5	233.5	244	308.5	385.5	484.5	488	488	809.5	1221
1996	11.5	19.5	23.5	45	58	62.5	66	73	90	126.5	172	185.5	249.5	282	283.5	294.5	344	549	634
1997	13.5	24	32.5	55.5	103	153.5	233	279	311	321.5	321.5	364.5	474.5	569.5	596	598.5	642.5	863.5	1547
1998	13.5	25	34	58.5	93.5	161	196.5	213.5	243.5	364	434.5	466.5	512	574.5	585	586.5	623.5	725	996
1999	12	22	30	42	62	107	141.5	157.5	173	207	258	296	512	654.5	674.5	674.5	704.5	790.5	1035
2000	10.5	20	24	44.5	81.5	124.5	159.5	174	180	181.5	194	203	210	234.5	263.5	277.5	346	422.5	625.5
2001	13	25.5	37.5	50	81.5	116.5	153	162.5	169	178	196.5	212.5	311	376	420.5	455	583.5	786	1401
2002	12.5	24.5	32.5	59.5	89	136.5	151.5	205.5	221	243.5	264.5	271	403	616.5	644.5	646.5	733.5	874.5	934.5
2003	12.5	22.5	26.5	37.5	52	76	101.5	123	128.5	140.5	169.5	184.5	246	271.5	271.5	313	393	523.5	850
2004	12.5	24.5	35	62	90	99.5	126	133	140.5	144	144	150.5	172.5	186.5	200	206	237.5	372.5	484
2005	12.5	21	28	53	80	116	166.5	177	209.5	278.5	395	508	673	720.5	763	790.5	850	1047.5	1304
2006	13	25.5	37.5	68	111.5	144	159.5	185.5	192.5	249	311.5	315.5	355.5	361.5	367	405	450	629.5	902
2007	10.5	17.5	21.5	30	37	55	70	74.5	81	118.5	120.5	141.5	157.5	221	228	260	289.5	395	645.5
2008	12	21.5	31.5	56.5	94	155	261	316	326.5	340	389.5	475	536	536	571.5	608	662.5	1152	1731.5
2009	14	20.5	29	53.5	68	96	109	124.5	145	155	178	209.5	271	297	299	301	313	366.5	634.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge K03 at PMG Radio Monitoring Station, Hong Ning Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	12.5	20	26.5	39	59.5	106.5	155.5	161.5	166.5	175.5	175.5	176.5	178	188	214	225.5	265	375	657.5
1985	9	14	19	35	57.5	79	120	152	160.5	177.5	189	209	292	302.5	311.5	312	322	470.5	769
1986	9	17	23	37	47	52	62.5	72	87	106.5	131	157.5	187	205	226.5	226.5	246	422.5	578
1987	10.5	17.5	26	42	59.5	75.5	89	99	105	116.5	149	168	202	250.5	252	302.5	368.5	471.5	580.5
1988	8	16	23.5	38	48.5	50	60.5	72.5	74.5	76.5	76.5	110	126	149.5	173.5	178	185	234.5	384.5
1989	11	17.5	24.5	43	65.5	88.5	156	156	162	162	175	206.5	226	235	239.5	240	240	280.5	499.5
1990	8.5	14.5	19.5	31.5	51	68	85.5	104	109	110	110	123.5	133.5	150.5	176	184.5	188	273	437.5
1991	10	17	21.5	30.5	47.5	53.5	58.5	61	74	82	92	94.5	154.5	178.5	179	179	183	292.5	361
1992	16.5	26.5	37.5	61.5	108	146	164	176	213	266.5	267	267.5	325.5	341.5	355.5	355.5	356	439	641
1993	11	19	25	40.5	65	107.5	130	142	149	169.5	224	258	416	502.5	565	582.5	583	743	875.5
1994	18	34.5	46.5	76	99.5	129	168	170.5	171.5	253.5	273.5	290	470.5	633.5	703	731	752.5	1031	1277
1995	12	23.5	34	62.5	83.5	103	116	147.5	164	225.5	293.5	374.5	447	532	560	562.5	562.5	1077	1307
1996	15	23	26	34	52.5	59.5	62.5	77.5	89	119	151.5	166	283.5	340.5	352.5	360.5	364.5	475	583.5
1997	11.5	21.5	29	49	86	118	172	181.5	224.5	234.5	234.5	253.5	359.5	447	460.5	466	478	714.5	1324.5
1998	11.5	17.5	23.5	40.5	67	107.5	161.5	199	251.5	331.5	394	426	460.5	532	539.5	546.5	592	715	995.5
1999	9.5	18.5	22	33	50.5	69.5	109.5	125.5	135	138.5	183.5	218.5	396	474.5	494	494	506	590.5	830
2000	12.5	22	30	52	86.5	130.5	156	180.5	180.5	197.5	198	202	265	315.5	386	392	402	470.5	787.5
2001	15	28	39	57	71	96.5	126	138.5	165	186	190.5	198.5	302	374	431	516.5	673	871.5	1391
2002	19	28	37	47	75.5	115	158	187.5	204	241.5	270	344	449.5	680	725	730.5	795	961	1017.5
2003	14.5	27	37.5	72.5	129.5	160	160	160	160	162	200	203.5	330.5	372.5	373.5	423	455	540	899.5
2004	16.5	33	47.5	73	95.5	103.5	123	129	133	136.5	137	137	160.5	177	187.5	198.5	219.5	357	550.5
2005	12	20	26.5	40	48	72.5	119.5	150	168.5	214.5	294.5	386	526	571	622	653	700.5	911.5	1162
2006	12.5	24	35	56	94.5	148.5	171	177	187.5	244	316	319.5	333.5	342	348	412	487.5	518	729.5
2007	11	19.5	26	44	61.5	82	90	101	112.5	127	133	177.5	237	320	367	390	423.5	484	735
2008	14.5	27	33.5	60	106.5	137	216	245.5	274	289	326.5	406	430.5	436.5	476	482.5	554.5	952.5	1555.5
2009	11	18.5	24.5	33.5	51.5	69	105.5	112.5	135	142.5	221.5	250.5	300	326.5	326.5	333	361	426	679

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge K04 at Lee Cheung House, Shun Lee Estate, Lee On Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	13	18.5	25.5	39.5	62	114	155.5	162	166.5	174	174.5	179.5	181.5	182.5	214.5	235	285	381	651
1985	9.5	17.5	26	45.5	53	76.5	116	147	155.5	173	185	197	303	318.5	328	329.5	342	546.5	870.5
1986	7	12	17	28	46.5	82.5	100.5	105	105	106.5	118	132.5	143	158.5	164.5	170.5	194.5	269.5	480
1987	9.5	14.5	21	36	50.5	64	73	79.5	107	114	134.5	174.5	190.5	233	234	281.5	320	424	522
1988	10.5	17.5	25	35.5	54	73	122.5	129	134.5	134.5	142.5	211	239	243	244.5	244.5	244.5	371	588
1989	13.5	24.5	24.5	39	56	85.5	131.5	133.5	139.5	174	191	207	223	225.5	230.5	231.5	271	302	522
1990	9.5	15.5	22	35.5	53.5	73.5	91	99	106	111.5	134.5	147.5	162	185	189.5	196	201	321.5	474
1991	10.5	19	26	37	50.5	64.5	87.5	110	141.5	164.5	183	187.5	251	280	281	281	281	341	483.5
1992	15.5	26.5	35.5	61	99.5	134.5	149.5	162	203.5	262.5	263	263	315.5	336	345.5	345.5	378.5	487	680
1993	12	22	27.5	45	68.5	118.5	146	157	164.5	183	257	291.5	463.5	555.5	628	644	644.5	811.5	944.5
1994	12	21	30.5	58	101.5	139.5	179.5	182	185.5	247	279.5	295	469	618.5	706.5	737	766.5	1026	1358.5
1995	10.5	20	26	42	59	75	90	106.5	115.5	160	214.5	293	358	445	467	470.5	470.5	875.5	1140.5
1996	13	20	23.5	36	53.5	62	82	84	92	120	169.5	179	287.5	338	342.5	349.5	364	505	661.5
1997	11.5	21.5	31	54	79.5	107	190.5	231	308	313	313.5	326.5	446.5	471	485.5	491	507	825	1501.5
1998	14.5	27.5	39.5	59	73.5	116	168	201	256	374.5	452.5	484.5	518	583.5	591.5	602	661.5	802	1110.5
1999	10	17	24	46.5	69.5	95.5	121	138	151.5	172	248	300.5	501.5	623	649	649.5	665.5	742.5	1032.5
2000	13	22.5	30	54.5	75.5	107	144.5	179	180	199.5	200	205	223.5	313.5	335.5	336.5	336.5	497	752
2001	13.5	24.5	34	57	74.5	104.5	138.5	148.5	156.5	168.5	192	210	310	359	423	533.5	689.5	828	1445.5
2002	16	28.5	39.5	51	78	113.5	137.5	168.5	205.5	220	241.5	325.5	437	677.5	721.5	732	792.5	989	1019
2003	12	20.5	30	56	94	107	108	113.5	118	131.5	175	176	296	317	333	373.5	417.5	492	866
2004	17.5	30.5	41	62.5	83.5	92	118.5	125	132.5	136.5	136.5	136.5	152.5	173.5	184.5	193.5	201	323	448
2005	12	19	27.5	51	80.5	109.5	122	148.5	167.5	217	324.5	416	572	614.5	668.5	699	755	929.5	1151
2006	13.5	20.5	30.5	52.5	92	146.5	169	196	210.5	268.5	350	355	392	401	406.5	410	488.5	541	812
2007	11	18.5	25	43.5	67	94	100.5	109.5	119.5	131.5	134.5	192.5	253.5	333.5	354	388.5	436	490.5	770.5
2008	15.5	23.5	32.5	54	86	129.5	194	224	235	246.5	262.5	346.5	388	394	414	455.5	494.5	917.5	1503.5
2009	12	22.5	31	46.5	70	72	93.5	93.5	116	122.5	191	219.5	268.5	291.5	291.5	295.5	352	391	645

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge K05 at Ko Chi House, Ko Yee Estate

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	9.5	16.5	23	26.5	39.5	59.5	77	93	110.5	122	123	125	159	183	191.5	194	236	380.5	570
1985	14.5	20.5	27.5	45	63	83.5	130.5	164.5	178.5	192.5	203.5	242	278	286.5	289	289	300.5	429.5	618.5
1986	10.5	19	25.5	49.5	80.5	107.5	126	132	132.5	134.5	150	177.5	213.5	235	248	248	293.5	448.5	621
1987	11	20.5	27.5	47.5	65	78.5	89	96.5	125	147.5	190	199	245	312.5	315	373.5	450.5	524	634
1988	9.5	15.5	22.5	35.5	53	73.5	79	79	82	89.5	103.5	159.5	181	197	213	216.5	228.5	283.5	508
1989	13	26	34.5	56	83.5	110	185.5	185.5	191.5	248	272	294.5	317.5	320	328	330	333.5	359.5	612
1990	11.5	21.5	29.5	41.5	46.5	66	81.5	89	93	98	125	145	156.5	176.5	179.5	183	191	313.5	386
1991	9.5	15	23.5	31	39	41.5	46.5	76.5	90.5	111	122.5	126.5	207	244.5	244.5	245	245	309.5	334
1992	13	26	36	72	129	160.5	180	196.5	240	289	289.5	290	338.5	350	358.5	358.5	400.5	434.5	633
1993	11.5	21.5	28.5	54	74.5	115	129.5	140.5	146.5	157	223.5	253	383.5	461.5	536	551.5	552.5	700.5	834
1994	13	25.5	35.5	65.5	88	127	184.5	188	188.5	193.5	223	233	380	529	590.5	606	625	877.5	1093
1995	15.5	27.5	35.5	69.5	89.5	118.5	165	181.5	194	271	344.5	420	496.5	579	610.5	612	612	1121.5	1401.5
1996	12.5	19	24	38.5	61	70.5	79	96.5	131	151	170	206.5	328	375	378	380.5	439	546.5	656
1997	13	25	36.5	54	77.5	110	147	152	154	159	179.5	241.5	386	478.5	495	506	512.5	719	1333
1998	15	28.5	38	58.5	72	86.5	128.5	158.5	194	258	294.5	342.5	384.5	440.5	452	467.5	536	650.5	940.5
1999	10.5	18	27	43.5	61.5	83.5	122	139	148.5	152.5	187	207.5	400.5	468	488.5	489.5	493	630	934.5
2000	11.5	20	28.5	50.5	85	122.5	146.5	157.5	157.5	178.5	179.5	193	224	297.5	359	373.5	388	425	716.5
2001	17	24.5	30.5	49.5	64	80.5	110	151	152.5	160.5	178	195.5	275	364	422	498.5	615	880	1318
2002	12.5	20	28	51	87.5	159	197.5	208	210.5	238.5	271.5	344	443.5	627.5	661	663.5	729	863.5	892
2003	13.5	25.5	37.5	64.5	85.5	98	113	122.5	168.5	177	179.5	189	309.5	337	344	398	445.5	542	760
2004	16.5	29	38	61.5	82.5	91.5	103.5	110.5	119.5	126.5	126.5	126.5	154.5	172	186	194	217	349	519.5
2005	12	22.5	31.5	46.5	57	60.5	94.5	126	140	190	263	335.5	467	545	609	650.5	675	915.5	1125
2006	14	23.5	31.5	53	78	123.5	202.5	240.5	251	290	333.5	340.5	352	384.5	389	389	420	482.5	721
2007	12.5	24	33	55	67	86.5	89.5	103.5	106	116	116	172	214.5	283	315.5	323	356.5	411.5	656
2008	12.5	24	33.5	53.5	75	107	212.5	237.5	253.5	264	289	370.5	399	399	444.5	455	532	920.5	1466.5
2009	15	28	37	54	70	71	100	100	114	119	193.5	221.5	259	263.5	269	280.5	284.5	362.5	553

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge K06 at Carnation House, So Uk Estate

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	13.5	23.5	31	49.5	67	105	159.5	166	171.5	174.5	174.5	179	214	216.5	216.5	222	274	357	671
1985	12	23	34	63.5	116.5	155.5	173	175.5	175.5	176.5	179	179	260.5	270	276.5	276.5	306.5	479.5	737.5
1986	12.5	22	29	45	65.5	97	117.5	121	130.5	140	209	225.5	248.5	271	284.5	284.5	332.5	541	703.5
1987	9	16	21	33.5	56.5	82	99	101.5	102	144.5	169	176	241	267.5	269.5	301.5	331.5	490	569
1988	8	12	17	30	41.5	57.5	82.5	88	91.5	91.5	104	132.5	155	158	158	173.5	212	266	502
1989	12.5	24	31.5	39	53.5	82	122	125.5	131	198	241	273	315.5	316.5	320.5	323.5	328.5	341	575
1990	11.5	21.5	29	32	39	56	76.5	89.5	94.5	96	138	170.5	181	204.5	209	221	226	298	397
1991	12.5	21.5	29.5	38	45	52	52.5	65	90	97	106.5	143	191	238	239.5	240	249.5	345	395
1992	12	21	30	47.5	64.5	104.5	121.5	137	163	219	219.5	220	263.5	274.5	287.5	287.5	336	389	495
1993	11.5	21	27	45.5	82.5	116	126.5	138.5	145	157.5	204.5	229.5	361.5	425	480.5	491	491	677	791
1994	13.5	26	32.5	41.5	73	104.5	188	195.5	210.5	314	345.5	360	488.5	603.5	661.5	683	691	890.5	1252.5
1995	13	24.5	33.5	46.5	61.5	94	152.5	160.5	177	229.5	247	249	287.5	375	451	455.5	455.5	780	1074
1996	11	20	24.5	33.5	42.5	60.5	66.5	74.5	83.5	118	158	175	246	275	275	275	346	525	627.5
1997	14.5	25	37.5	69	119.5	178.5	254.5	295	330	346	346	433	534	610	626.5	635	671.5	868.5	1504.5
1998	11	22	31	50.5	65.5	107	146.5	166.5	197	290	348.5	376	430.5	497.5	506	506	553	642	904.5
1999	10	17.5	24	41	75	111.5	123.5	149	167	175	242	285	495.5	640.5	664.5	665	689.5	779.5	1013.5
2000	12	22	30	50.5	89.5	133	162.5	178	181.5	183.5	197	205.5	210.5	236	246.5	260.5	349	425	574
2001	21	34	47.5	77.5	104	154.5	192.5	201.5	207.5	221	237.5	253.5	300	363	464	494.5	636.5	812.5	1468
2002	12.5	25	34	59	75	92	123.5	156.5	160	174	196	237	338	513	524.5	528.5	596	703	806.5
2003	15.5	24.5	27.5	42	46	57.5	75.5	89	93.5	111.5	129	150.5	205.5	240	251	329	392.5	524.5	752
2004	13.5	24.5	35.5	60	88.5	98.5	126.5	132.5	145	148.5	148.5	148.5	159	172.5	183	189	215	332.5	484
2005	12.5	20.5	28	38	66.5	100.5	143.5	170	216.5	295	403.5	506.5	686	746.5	782.5	826.5	855	1038	1300
2006	14.5	28.5	40	74.5	112	137.5	153	163	168	213.5	264	267	280.5	285.5	378	412	413.5	607.5	844
2007	12.5	18.5	23	32.5	48	66.5	81.5	87.5	95	121.5	123.5	147	162.5	208.5	224.5	230	281.5	392.5	635
2008	13.5	25	36.5	59.5	94.5	161.5	260	306	314.5	326	358.5	425	484.5	489.5	506.5	543.5	615.5	1020.5	1594.5
2009	13	20.5	30.5	53.5	67	78.5	110.5	125	147.5	159.5	182.5	201	271.5	285	285	288.5	324.5	354.5	599.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge K07 at Wing C, Ching Tak House, Tsz Ching Estate

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	15	25.5	34.5	50.5	75	119.5	176	181.5	184	191	192	196	199.5	205	231.5	261	310.5	439.5	734
1985	9	15	18.5	30.5	54	71.5	84.5	87.5	87.5	97	99	101.5	179.5	200	234	239.5	311.5	514.5	745
1986	7.5	14	19.5	32	49.5	84	113.5	145	155	155.5	155.5	198	232	240.5	241	241	261.5	496	635
1987	7.5	14	20.5	34.5	57	81.5	89	99.5	105	136.5	160	168.5	218.5	261.5	264	308	346	490.5	582
1988	8.5	15	21	27.5	41.5	54	80.5	85	88	88	92.5	140.5	161.5	163.5	163.5	195	216.5	317	582.5
1989	8	15	19	32.5	45.5	74	113.5	139	175.5	227	251	272.5	295.5	298	302	304.5	308	321	477
1990	10.5	19	23	29.5	39	52.5	80.5	99	100.5	101	150.5	162.5	172.5	196.5	202	202.5	219	294.5	415.5
1991	8.5	15	20	29	49	60.5	83.5	97.5	116.5	133.5	154	160.5	211.5	234.5	234.5	234.5	236	305	408
1992	13	23	31.5	54.5	94.5	136.5	146.5	158.5	182.5	262.5	263	263	296.5	308.5	316	316	354.5	471.5	645
1993	12	20.5	24	44	77.5	127.5	151	162.5	170.5	194	281.5	333	511	599	658	668	669	892.5	1037
1994	13.5	23.5	33	54	69	100	158	166	203	291	312.5	321.5	487	657	719	755.5	807.5	1036.5	1494
1995	10.5	19.5	29.5	41.5	64.5	92.5	123	137.5	160.5	208	263.5	306.5	386	465	522.5	526.5	526.5	989	1393.5
1996	12	20	27	44	61	65.5	70.5	83	103.5	141.5	189	212	299.5	356	356	356	443.5	664.5	779.5
1997	11.5	19.5	27.5	46	68	128	197.5	238.5	277.5	282.5	282.5	334	438.5	529.5	547.5	554.5	591	829.5	1451
1998	14.5	26.5	33.5	57	83.5	137.5	166	208	237	362.5	428.5	472	510.5	566	576	580.5	634.5	779.5	1143
1999	12	21	29.5	54	90	144	188	214	231.5	259.5	314	339	539	685.5	713	714.5	735.5	824.5	1180.5
2000	12	23.5	33.5	58.5	94	136	166.5	178.5	184	185.5	199	207.5	208.5	241.5	289	291.5	319	442.5	685.5
2001	18	30.5	46	54	72	105	139	149.5	156.5	173.5	194	203	317.5	392	437	486	603.5	875.5	1531.5
2002	13	21.5	30	53	88	161	185	227.5	239.5	260	282.5	299.5	460	688.5	732.5	737	818.5	988	1024.5
2003	12.5	20.5	26	41	56.5	77.5	97.5	108.5	110.5	114.5	144.5	159.5	216	247	272	324	400.5	533.5	895.5
2004	14	23.5	31.5	53	82	90.5	117.5	124	130.5	134	135	149	173.5	189.5	202	211	226.5	351.5	432.5
2005	13.5	23.5	35.5	63	93	119.5	150	161.5	199	266	366	473.5	624	665	726.5	761.5	832	1036	1296.5
2006	13	24	32.5	59.5	94.5	130	168	206.5	220	267.5	331	338	373	384.5	385.5	393	419.5	614	878.5
2007	12	22.5	30.5	45	50.5	63	75	89.5	103	114	130	150.5	210.5	295.5	338	358.5	406	470.5	734.5
2008	12	22	31	53.5	81	161	215.5	264.5	280	294.5	333	409.5	452.5	452.5	491.5	511.5	568	1037	1576
2009	12.5	21.5	31	49.5	52.5	79	112.5	126.5	153	164.5	202.5	238.5	312	343	343	349	366.5	421.5	696

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge K08 at FDBWA Szeto Ho Secondary School, 7 Kai Tin Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	9.5	17.5	22	28.5	44.5	61	88.5	93	95.5	104.5	105	108	131	187.5	193	196	223	357	544.5
1985	10.5	18	25	37	49	68	111	141.5	150	159	165.5	211	248	254	264	269.5	309.5	471.5	761
1986	10	15	20.5	33.5	43	54	70.5	93	102.5	115	135.5	159.5	224.5	232.5	234.5	235	272	414.5	584
1987	10.5	18.5	26.5	40.5	61.5	78	90	96	119	140.5	174	187	226	286	287.5	338	410.5	482.5	578
1988	7	14	20	37.5	57.5	71	83.5	112	117	121.5	121.5	150	170	209	225.5	229.5	238	295.5	491.5
1989	11.5	21	28.5	50.5	76.5	101.5	175.5	175.5	181.5	217.5	241	263	285	287.5	295	297	300	327	575
1990	12	22.5	31	48	55.5	70	87	92.5	98	102	119.5	139.5	150.5	166.5	203	206.5	213.5	296	415
1991	10	16	24.5	36.5	55.5	57.5	57.5	72.5	91.5	99.5	111.5	114.5	187	208.5	209	209.5	209.5	323	380
1992	12.5	23.5	34.5	66	114.5	139.5	160	172	213	269	269.5	270	325.5	339	353	353	393.5	484.5	697
1993	12.5	19	22.5	43	60	100.5	118.5	129.5	135	142.5	210	238.5	373.5	454	522.5	542	542.5	673	788.5
1994	14.5	28	40	72	90.5	137	187	189.5	190	200.5	230.5	250.5	414	567.5	645.5	660.5	678.5	934	1147
1995	15	29.5	40	76.5	89.5	117	153	175.5	187.5	254.5	317.5	390	467.5	550	587.5	588.5	588.5	1123.5	1373.5
1996	11.5	18.5	23	38	57	64.5	73	87	120	142	161	195.5	310.5	356.5	357.5	366	408	514.5	603.5
1997	11.5	22.5	32	55	91.5	133.5	179	184	198.5	207	207	259	413.5	512.5	529.5	536.5	542	771	1417.5
1998	13	23.5	34	57.5	71.5	84.5	137	163	213.5	268	320.5	351.5	399	454	462.5	471.5	528.5	639.5	924
1999	9	16.5	24.5	36	50	64	122	137.5	147.5	151	191.5	220.5	402.5	473	493	494	499.5	602	850.5
2000	11	21	30	46.5	88.5	141	162	163.5	172	191	191.5	196	264.5	316.5	389	402	412.5	423.5	742.5
2001	16.5	24	34	54	75.5	88.5	127.5	147	154	166	196	213	299.5	374.5	427.5	510.5	615	861	1354
2002	13	25	34.5	46	71.5	120	174	193.5	203	243.5	276	348.5	447	640.5	679.5	682	752	892.5	923
2003	15	29	42.5	73.5	105.5	123	123	123	166	174	176	186.5	315.5	346.5	348	398	423.5	518.5	789
2004	16	31.5	43	67.5	87	96	111	117.5	123.5	128.5	129	129.5	165	181.5	193	201	219	353.5	533.5
2005	11	18.5	25	40.5	49	63.5	102.5	133.5	147.5	193.5	260	335	458.5	528	588	626	661	873.5	1102
2006	16	21.5	31	50	73	116.5	198.5	236	248.5	280.5	332	339	352	372.5	385.5	386	471	515.5	708.5
2007	10.5	19.5	28	47.5	61	78	83	96.5	100.5	118	118.5	178	238.5	309.5	347	367	401	472	740
2008	13	25	35.5	61	94	123.5	229	242.5	256	266.5	302	382.5	401	413	451	461.5	525	941	1426
2009	14	19	23.5	41.5	56.5	60.5	94	94.5	106	112.5	180.5	210	242	250.5	251	263	275.5	354	545.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge N01 at Administration Block, Shatin Water Treatment Works

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	8.5	15	20.5	29	42.5	70	91.5	98	107.5	116	129.5	139	172	172	173	173.5	246.5	339.5	531
1985	13.5	25	37	68	132.5	199	227	229	229	230	233	233	293	305.5	307	309	325	586	845.5
1986	10.5	19	23.5	38.5	63	91.5	132	150.5	162.5	177.5	236.5	259	284.5	335.5	348.5	348.5	373	592.5	792
1987	11	20	25.5	41	66.5	99	122.5	133	137	204	236.5	247	329	370	374.5	405	432	618.5	703.5
1988	9.5	16	22	37	52.5	71.5	95	103	106.5	106.5	112	155	183.5	185	185	221.5	285	369	646.5
1989	18	32	41.5	58	70.5	88.5	130	161	194.5	272.5	317	353	394	396	399.5	401	407	455.5	653
1990	12.5	21.5	28.5	39.5	69	124	156	174.5	184.5	187	187	190.5	247.5	251.5	252.5	292	296	418.5	555
1991	8.5	14	22.5	31	42.5	60.5	69.5	69.5	84.5	107.5	112.5	137.5	216.5	273.5	274	274.5	285.5	397.5	451
1992	9	17	25.5	46	59.5	89.5	99.5	102.5	121.5	172.5	172.5	172.5	210	217.5	229.5	229.5	280	395.5	529
1993	17.5	27.5	32	56	98	154.5	169.5	181.5	188.5	205	261.5	293.5	458	532.5	596.5	604.5	606.5	854	995
1994	13	21.5	31	38	65	102	179.5	186	196	283.5	314	329.5	422	545.5	590.5	608	631.5	847.5	1261.5
1995	14.5	24	33	51.5	72.5	103	148	157	195.5	225.5	272.5	290.5	350.5	449.5	570	574.5	574.5	916.5	1293
1996	11.5	18.5	23.5	37.5	49.5	52.5	82	93.5	112	149.5	191.5	215	287	326.5	326.5	326.5	387	581	661.5
1997	12.5	25	36.5	68.5	125	188.5	227.5	268	309	331	391	502.5	599.5	661	676.5	679.5	716	911.5	1457.5
1998	13.5	25	35.5	57	69.5	116.5	143	159.5	184.5	279.5	347.5	374	443	507	515.5	516.5	561	652.5	930
1999	11.5	20	26.5	51	83	123.5	137	172.5	182.5	208.5	276	332	557	730.5	755.5	756	782.5	871.5	1131
2000	11.5	21	30	49.5	78	111	133.5	146.5	153	162	174.5	194.5	215	243.5	252	267	327	406.5	602.5
2001	19.5	24.5	34	54.5	100	158	207	218.5	226	246.5	258.5	279.5	344	413.5	456	522	654.5	891	1528.5
2002	13.5	23	33.5	56.5	92.5	112	136.5	173	184.5	211	236.5	262	395.5	618.5	649	652	739.5	880.5	945.5
2003	14	21	25.5	36	45.5	62	79.5	97	101.5	116	143	168	243	269	289.5	372	427	540.5	811.5
2004	9.5	19	27.5	53	81	92.5	119	139	158	162	162.5	169	194	209.5	221.5	227	239	367.5	511
2005	12	22.5	32	58	91	105.5	168	209	250.5	337.5	468.5	570	767.5	835.5	890	932	975	1194	1486.5
2006	14.5	28	39.5	69.5	102	129	152	186.5	195	249	324.5	329	358.5	371.5	384	415	453	629	871
2007	13.5	22	24.5	32	50.5	61	62.5	80	91	133	135.5	148.5	164.5	215	232.5	244.5	294	429	669.5
2008	13	22.5	31	55	90.5	133	229	266.5	277.5	291	328	416.5	468.5	470	493	522	578	1027.5	1631
2009	17	26.5	39	71	93.5	95.5	140	146.5	151	176	187.5	198.5	267.5	290	291	294	299.5	356.5	635.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge N02 at Shun Wo House, Wo Che Estate

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	12	18.5	25.5	39	61.5	91.5	107	142.5	146.5	149.5	149.5	151.5	184.5	185	191.5	205.5	234	314.5	549
1985	11	18.5	24	42.5	80	138.5	149.5	150	150	150	156.5	170.5	224	225.5	235	245.5	281	455	764.5
1986	12	22.5	30	47.5	59	74.5	114.5	128	136	153	178.5	205	230.5	254.5	263.5	264	282.5	449.5	624.5
1987	10	18.5	25	36	67.5	104.5	133.5	149.5	152	222.5	250.5	259	334	364	369	405.5	435.5	548	653.5
1988	9	17.5	25.5	44.5	72.5	91	95.5	97.5	101	116	125.5	161	193	214.5	234.5	308	355	542	818.5
1989	10.5	21	28	40	49.5	75.5	116.5	160.5	204.5	254.5	289	322	352	359.5	360.5	367	375	392	600.5
1990	10	16	21	35.5	61.5	107.5	125	136.5	149.5	150	150	153	165	177.5	197	199.5	206	290	385.5
1991	10.5	18	25.5	36	49	74	88	88	88	96	97.5	128	180.5	229.5	230.5	234	240.5	364	435.5
1992	12.5	22	31.5	56	69	85	97.5	116.5	144	180	188.5	190	216.5	231	242.5	265.5	382	573	716.5
1993	12	21	30.5	56	101.5	127	168	182	194.5	210	269.5	304.5	455.5	511	569.5	577.5	588.5	762.5	976.5
1994	15	28.5	39.5	45.5	68	97.5	181	191	215	295	330	343	430.5	558	602.5	630.5	656.5	847.5	1363
1995	15	23.5	31	46.5	78.5	115	127.5	156.5	165	192.5	237	273	413.5	512	515.5	520.5	520.5	1003	1395
1996	12	21	26	50.5	61	65	78	90	104.5	126.5	151.5	155	228	269.5	273	282	382.5	511.5	577.5
1997	12.5	24.5	34.5	65.5	124	185.5	229.5	295	339	367	466	587.5	687.5	760	783	789	830.5	988.5	1451.5
1998	12	22	30.5	43.5	73.5	127.5	159.5	173.5	201	275	355.5	385.5	438	489	498	499.5	540.5	666.5	954.5
1999	12	22.5	32.5	56	79.5	107	132.5	164.5	182.5	203	250.5	302	506.5	703.5	728	728	751	826	1097.5
2000	15	25.5	31.5	46.5	68.5	88.5	105	117	127.5	152.5	173.5	187.5	209	238	260	274	297	367	622.5
2001	13	22.5	31.5	50.5	81.5	131	172	180.5	187.5	205	215.5	234.5	319.5	397	422.5	492	656	804	1442
2002	12	22.5	29	50	83.5	146	170.5	211	231.5	263.5	289	293.5	424	618	645	663.5	732	854.5	912
2003	13	20	24.5	36	43.5	61	80	97	105.5	123	144	165.5	234	266	266.5	351	423	503.5	729
2004	9.5	16	23	42.5	62	74	101.5	125	133	142	158	174.5	205	219	225	228.5	238.5	362.5	471.5
2005	12.5	24.5	32.5	43.5	62.5	72.5	109	135	165.5	230	309	379.5	509.5	554	598.5	663.5	719.5	871.5	1084.5
2006	12.5	23.5	33	55.5	81.5	101.5	153.5	160	168.5	244	330	356	407	431.5	445.5	456	524	611	833.5
2007	14.5	24.5	32.5	53.5	65.5	68.5	74	76	84	116	120.5	147	207.5	272	320	383.5	411.5	509.5	850.5
2008	12.5	23.5	32.5	49.5	90	134.5	187.5	215	231.5	249.5	278	360.5	439	440	453.5	497.5	572.5	1054	1572
2009	14	21.5	28.5	39.5	54	72	100.5	106	132.5	140	171.5	194.5	248	271	271.5	274.5	302	373.5	591

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge N03 at Tsuen Wan Treatment Works, Shing Mun Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	12	20.5	25	39.5	50.5	68	88.5	110	112	114	114.5	116	175.5	175.5	176	180.5	213.5	294	475.5
1985	10.5	17	23	42.5	63	96	105.5	128	137	158	174.5	196	244.5	258.5	267	267.5	346.5	588	875.5
1986	16	21.5	27.5	38.5	50.5	76.5	109	119	130	146.5	234	259	275	326	332.5	333	356.5	524	727
1987	8	15	21.5	31	58.5	91	119	144.5	147	174	194	217.5	261	289	295	306	327.5	476	553
1988	10.5	20	25.5	35.5	54.5	71.5	92	104.5	105.5	123.5	131.5	204	237.5	243	243.5	243.5	243.5	333	590.5
1989	14	23	28.5	36.5	70	79.5	96.5	100	113.5	162.5	202.5	229.5	253.5	259	262.5	263	270	277	504.5
1990	9.5	15	21	37.5	61	86	103	118	119	120	170	195.5	214.5	229	238	244.5	257	291	325
1991	7.5	12.5	15.5	28	44	61.5	66.5	66.5	83	100	116	134.5	157.5	196	201	201	262	323.5	476
1992	15.5	29	40.5	62.5	71.5	98.5	135.5	178.5	207.5	247.5	262	264.5	266.5	266.5	267	287.5	347	534.5	702.5
1993	15.5	27	38	66.5	97	153.5	170	181.5	183.5	193	199	205	296.5	342	384.5	390	447	582.5	801
1994	10.5	18	25.5	41.5	63	89	162.5	188.5	195.5	263.5	293	299.5	399.5	486	523.5	539.5	548.5	715.5	1240
1995	11.5	21	30.5	48	58	68	86.5	108	129.5	190.5	235.5	272.5	359.5	451	456.5	456.5	460.5	835.5	1135
1996	11	20.5	24	32	41.5	64.5	77.5	87	107	145	182.5	197.5	258.5	285	285	285	350.5	484.5	554.5
1997	14	27.5	39.5	77	127.5	190	220	238	245.5	263	367.5	446	543	619	635.5	667	699.5	875	1297.5
1998	15	29	39.5	51	67	114	136	149	187	246	323.5	339.5	388	438	447	449	494	563.5	777
1999	13.5	26	33.5	54	84	113	153.5	176.5	190.5	213	299	353.5	579	727	767	767.5	802	884	1097.5
2000	12	23	29.5	41.5	62	90	105.5	106.5	107.5	126	137	155	185.5	244.5	296.5	328	334	385	612.5
2001	15	26	36	67.5	109	140	183.5	192.5	198	210.5	218	234.5	316.5	386	474.5	598.5	709	857	1531
2002	13	25	34	52.5	83	142	222.5	251	283.5	291	293	294.5	305	435	449	504.5	541	701	1000
2003	11	19	23.5	34.5	45.5	58.5	90.5	112	115.5	130	148.5	188	242.5	267.5	270	329.5	384	509	731
2004	10.5	18	24.5	35.5	47	58.5	82	100.5	118	122.5	152.5	170.5	185	199.5	211	237.5	254.5	365.5	466.5
2005	12	20	27	48	64	87	147	169	204	284.5	388.5	466	608	653.5	682.5	722.5	761.5	963	1319
2006	13	23.5	34.5	66	83	126	183.5	228.5	263	275	285.5	290	341	371.5	381.5	386	478	759	990
2007	13	25.5	30	39.5	50.5	64.5	80.5	90	99	138.5	141.5	151.5	169	206.5	220	241	311.5	419	644
2008	14.5	27	40.5	65.5	80	112.5	197	237	252	269.5	330.5	388	489	492.5	493	557.5	618.5	1102.5	1757.5
2009	14	23.5	28.5	40	60.5	89.5	124.5	135	137.5	148	163.5	169.5	202.5	230	233	267	280.5	352	584.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge N04 at Kai Kwong Lau, Cho Yiu Estate

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	11	18	26	37.5	55.5	62.5	97.5	132	136	139.5	139.5	141.5	203.5	205.5	206.5	211	255.5	305	562
1985	11	19	28.5	47	59	73	96	111.5	120	132	155.5	164.5	224	235	237.5	238.5	260	453	739
1986	10	16.5	21	34	56.5	83.5	99.5	102.5	112.5	127	173.5	189.5	215	235	247.5	247.5	266.5	442.5	592
1987	9.5	15.5	23	38.5	71.5	104	135.5	151.5	157	217.5	247	257	338	365.5	369	402	424	613.5	681
1988	8	14.5	21	34	60.5	81.5	110	125	126.5	126.5	147	179	205	207.5	208	209	273.5	338.5	620
1989	15.5	26.5	34	49	57.5	80.5	126	136.5	168	256	327	361	399	401.5	403	407.5	412	422	662.5
1990	6.5	11	14.5	22.5	31.5	50	80	87.5	88	88	88	98	114.5	118	126	126.5	136.5	188.5	318
1991	10.5	18.5	25.5	40	52	83.5	88	91	105.5	123.5	146	197.5	241.5	286.5	290.5	290.5	304	447	506.5
1992	14	25.5	35.5	59.5	82	118.5	140.5	147.5	180	251.5	252	252	311	327.5	355	355	391	561.5	728
1993	13.5	25.5	36.5	62	97	127.5	138.5	147	148.5	155	165.5	199	310.5	362	400	406	409.5	595.5	702.5
1994	12.5	23.5	33	42	59	95	170.5	187.5	196	290	314	327.5	428	514.5	565	584.5	596.5	747.5	1156
1995	13.5	27	39	54	61	90	100.5	122	147	189.5	232.5	267.5	325.5	406	456.5	460.5	460.5	812	1157.5
1996	17	27.5	31.5	34.5	42.5	55	66	90	100	136	176	194.5	266	292	292.5	292.5	363.5	488.5	558
1997	16	30	43	78	128.5	184.5	262.5	302.5	351	364.5	364.5	367.5	460	519	530	552	566	754.5	1323
1998	17.5	30	37	55	68.5	99.5	129	150.5	182.5	233	300	331	387.5	457	470	470.5	519	599.5	779.5
1999	15	23.5	30	48	75	95.5	130	160.5	190	212.5	264	315.5	542.5	746.5	786	786.5	828.5	919.5	1139.5
2000	15.5	28	36.5	53.5	82.5	116.5	137.5	152	159.5	161	175.5	185	206.5	252.5	259	270.5	343	428	572
2001	16.5	32	43.5	76	117.5	153.5	193.5	202.5	208.5	229.5	234.5	251	295.5	348.5	423.5	514.5	658	802.5	1413
2002	12	21	27.5	40	58.5	87.5	118.5	142.5	154	163.5	191.5	222	305	497	507	513.5	582.5	677.5	770
2003	9.5	18.5	24.5	29.5	43	57.5	80.5	106.5	111.5	123	151	167	220	246	278.5	335.5	357	491.5	752
2004	11.5	19.5	28	55	82.5	96	125	146.5	168	172.5	172.5	172.5	185.5	192	198	217	235	346.5	508.5
2005	12	23	28.5	48.5	87.5	98.5	126.5	159	203	272.5	373	470.5	641	685	721.5	768.5	815.5	1000.5	1297
2006	14.5	24	34.5	59	84.5	115.5	155	165	170.5	193.5	215	225	237.5	274.5	333	348	383	582.5	826.5
2007	11.5	20	22.5	35.5	49.5	66	81.5	89.5	95	128.5	139	142	159	216	232.5	236.5	265.5	398.5	622.5
2008	11	21	29.5	53	76.5	132.5	193.5	234.5	248	261.5	295	369.5	412.5	413	453.5	481.5	553	979	1569
2009	18	32	43	57	57.5	64.5	94.5	121	128	138	160.5	167.5	244.5	276.5	276.5	280	287	341	484.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge N05 at Cheung Chi House, Cheung Wah Estate

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	12	20	24	41	56	70.5	99	108	115	136.5	160.5	165.5	212	234.5	235.5	235.5	266	369	597.5
1985	8	16	23.5	33	44.5	55	65.5	77.5	99	136.5	187	208	315.5	346	346	346	388	536	887
1986	10.5	17.5	25	44.5	59.5	64	86.5	99	107	124.5	157.5	195.5	229	301.5	316.5	316.5	325	540.5	706.5
1987	6.5	9.5	12.5	21.5	34	54.5	72	85	100.5	120	133.5	152	244.5	261	261	261	261	273.5	535.5
1988	5.5	9	13	22	32.5	55.5	92	120	132.5	154	165.5	165.5	237.5	238	238	242.5	254.5	390.5	622
1989	10.5	18.5	26	44.5	55	77.5	83	131.5	132	132.5	166	171.5	181	181.5	193	198	234.5	254.5	395
1990	12	19	21	25.5	34.5	47.5	54.5	64	67	83.5	106.5	113	131	142	149.5	157.5	168	220.5	330.5
1991	7	13	19.5	31.5	39.5	59	62	68	74.5	76	77.5	98.5	172	228.5	232.5	233.5	237.5	280	378.5
1992	9	16.5	24	43	66	91.5	141.5	161.5	181	204	214	216.5	217	217	217	254	288.5	354.5	430.5
1993	10.5	17.5	25.5	45	80	105	147.5	180	214.5	247	294.5	322	414	443.5	482	482	501.5	603.5	716
1994	10.5	18	22.5	38.5	59.5	96.5	130.5	167	197	251.5	312.5	364	425.5	479	494	505	538	715	1254
1995	18.5	36.5	46.5	54.5	66	94	170.5	188	194.5	217.5	252	253.5	256	306.5	431	433.5	433.5	584	882
1996	10	18.5	26.5	44.5	70	84.5	134	182	207.5	210	251.5	353	388	441	460.5	468	475.5	604	734.5
1997	13	16.5	22.5	37.5	44.5	64.5	79	93.5	117	148.5	160.5	175.5	282.5	329	378	387	460	635.5	968
1998	13.5	23.5	31.5	46	58	82	92.5	123	153.5	175.5	188.5	201.5	225	252.5	255.5	281.5	336	542.5	828
1999	6.5	13	17	31	51	73	97.5	114.5	134	155.5	178.5	196	276.5	315.5	332.5	332.5	338.5	382	466
2000	10.5	19	27.5	39	64.5	95	136	185.5	203	230	253	267.5	282.5	282.5	282.5	283	283	430.5	658
2001	13.5	23	31	50	85.5	145	229.5	255.5	299.5	312	313	315	431	548.5	624.5	747	864.5	931.5	1535.5
2002	12.5	24	31	39.5	43	70.5	90.5	102.5	117.5	137.5	157.5	169.5	259.5	364.5	381	398	439	545	645.5
2003	14	28	41	68.5	98	163.5	266.5	302.5	341.5	356	387.5	419.5	485	492	496	496	498.5	511.5	658
2004	13.5	22	27	37	48.5	55.5	66	92.5	94	111	141.5	152.5	175	189	200	207	210	284.5	413
2005	10	18	25.5	38.5	58	86	124.5	156.5	162.5	167	214	250.5	355.5	412.5	449.5	473	521.5	645.5	876.5
2006	11	21	29.5	37	56.5	80.5	121	127	134.5	152.5	202.5	217.5	241.5	257	270	339	374.5	471.5	687
2007	13	21	31.5	54.5	65	76.5	94	101.5	118	133.5	138	139.5	198	232	256	273.5	306	369.5	594
2008	11.5	20	26.5	40	72.5	114	157	181.5	187	197.5	280	311	422.5	436	436	539.5	576.5	909	1358.5
2009	13.5	26.5	32.5	49	62.5	75.5	86	88.5	111	119	133	142.5	168	178.5	178.5	182.5	187	277.5	479

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge N06 at C.N.E.C. Christian College, 6 Lei Pui Street, Shek Lei

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	6.5	12	16.5	23.5	31.5	36	50.5	64.5	66	69	69	70	97.5	99	99.5	102	122.5	159	280
1985	12	20.5	27.5	43.5	58	108	115.5	128	137	154	171.5	191	253	265	268	268	341.5	575.5	930
1986	11.5	17.5	20.5	32.5	46.5	71	110	127	143	151.5	160	189	230	240.5	241	242.5	258.5	395.5	580.5
1987	10.5	17.5	25.5	37	73	112	146.5	164	166	231.5	257.5	268.5	358.5	386	391	418	439.5	603.5	698.5
1988	10.5	19.5	26	39.5	55	88.5	102.5	118	120.5	120.5	126.5	178.5	212	213.5	214	224.5	303.5	385	701
1989	14.5	26	32.5	41.5	71	87.5	130	159.5	183.5	264.5	325.5	364	396	398	398	405	409	414.5	636
1990	12.5	20.5	27.5	50	81	135	159	174.5	178	181.5	210	242.5	267.5	284	296.5	299.5	316.5	388.5	546
1991	10.5	20	27.5	42.5	63.5	93	98.5	101.5	116	137.5	140	188	288.5	362.5	369	369	384.5	601	665.5
1992	15.5	29	41	67.5	83.5	117.5	137.5	174	203	246.5	262	262.5	303	316.5	343	374.5	478	708	909
1993	18.5	32	45.5	80.5	117	147	185	185	185.5	189	203	256	401	468	518.5	525	526	727	897.5
1994	17.5	31.5	45	56.5	74.5	110.5	204	225	242.5	345	368.5	385	476	575	623	644	655.5	869	1344.5
1995	15.5	29	41	57.5	68.5	94.5	98.5	135.5	162	191	234	277.5	375.5	475	480.5	480.5	486.5	937.5	1299
1996	12	18	23	37.5	47	59	74	83	99	137.5	182.5	208	277	308.5	308.5	308.5	388	553	621
1997	14.5	26.5	37	65.5	113.5	167	185	258.5	294	316.5	419	508	608.5	672.5	689.5	714	736	956	1472.5
1998	13	25.5	33.5	44.5	74.5	123.5	147	163	196	243	312	338.5	377.5	434	445	446	491.5	577	780
1999	13.5	22.5	28.5	51.5	83	108.5	144	174	185	217.5	290.5	344.5	578	761.5	795.5	796	825.5	938	1137.5
2000	12	21	30.5	52	75.5	103.5	118	128.5	129	144	158.5	177.5	201	241	271.5	297.5	323.5	402	606.5
2001	20	39	57.5	91	132	157	203	211.5	217.5	237	245	260.5	334	357	490	569.5	714	894.5	1603
2002	12	21.5	29.5	43.5	62	119.5	175	201.5	223	226.5	230	231	294.5	493.5	503.5	507	588.5	698.5	900
2003	9.5	18.5	24.5	38.5	50	61	72	92	97.5	115	138	163.5	222	257.5	286	365.5	420	561	789
2004	10.5	19	27.5	48	66	78.5	106	130.5	151.5	156	157.5	178	195	205	213	216.5	231.5	347	499
2005	11	20.5	25	41.5	63	92	142	174.5	215.5	284.5	388	476	638	678	717	768.5	810	1008.5	1352.5
2006	16	31.5	40	62	88.5	118.5	175	181.5	181.5	229	290	293.5	305	319	342	374.5	427.5	630	855.5
2007	12	19.5	25.5	45.5	54	60.5	74	80.5	94.5	135	137.5	151.5	167	208	223.5	243.5	299	406	644
2008	14.5	28	37	58	86	120	226	261	273.5	288.5	332.5	410.5	491	494	496	555.5	609	1095	1726.5
2009	14.5	24	33	41	62	83	109	126	141.5	152.5	167	178.5	240.5	260.5	260.5	264.5	273.5	338	543.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge N07 at Tuen Mun Technical Institute, Tsing Wun Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	11	16.5	21.5	30.5	48.5	63.5	72	78	82.5	85	88	93	138	162.5	175.5	177.5	188	255	438.5
1985	9.5	15.5	23	36.5	62.5	74	75	80.5	83	88.5	88.5	88.5	155	160.5	196	216	222.5	257.5	309
1986	18	26.5	30	35	36.5	38	38.5	40	40	44	46	46	49	58	58	58	58.5	66.5	86.5
1987	6.5	13	19	36	61.5	107	157	168.5	177.5	191	214	255.5	280.5	281	281	281	304.5	340.5	403.5
1988	9.5	17.5	24.5	43.5	62	86.5	102.5	116	124	136.5	138	183	219.5	220	220	220.5	237.5	296.5	564.5
1989	6.5	13	19	31.5	41.5	46	71.5	76.5	77.5	117.5	163.5	174	188	195	199.5	203.5	215	251.5	464
1990	8.5	16	22	31.5	53.5	91.5	134	140.5	149.5	153	175	189	201	215	218	222	222	269	306
1991	7	13	17	30.5	38.5	53.5	85.5	109	113	113	113	113.5	158	200.5	205	205.5	222.5	296.5	350
1992	8	15.5	21.5	34.5	55	70.5	107.5	122.5	140.5	161.5	172.5	172.5	173.5	200	222	239.5	329.5	372.5	492
1993	12	21.5	27.5	50.5	98	151.5	212.5	251.5	274.5	304.5	331	364.5	381	382	382	382	392	490.5	550.5
1994	9.5	17	23.5	41	62.5	98.5	161	201.5	244	350	384	395.5	508.5	576.5	590	599	599	723.5	1099.5
1995	9.5	19	25.5	34	54.5	77.5	85	95.5	102	140	153	158.5	212.5	244.5	286	290.5	290.5	486.5	744
1996	10.5	16	18	27.5	30.5	46.5	56	57.5	67	81.5	104.5	129.5	180.5	191	191	191	229	276.5	376.5
1997	13.5	23.5	32	49.5	60	60.5	65.5	84.5	94	117.5	151.5	160	259	287	297	311.5	326.5	437.5	708
1998	11	21.5	30	43	70.5	117.5	170	202.5	220	243.5	306	322.5	335.5	380	385.5	410	471	539	863
1999	8	14.5	21.5	35.5	63	101	123.5	142.5	154	187	276.5	311	441.5	479	520	520	531	577.5	732.5
2000	12	23.5	32	47	75	142	227	292	328.5	360.5	383.5	399.5	412	412.5	412.5	413	413	606	857.5
2001	13.5	22	27	39	48	76	111.5	137	141	166	185	187	249.5	324	358	389.5	463.5	578	1057.5
2002	15	29	36	53	74.5	92	100	119.5	124.5	157	158	158.5	195.5	266	305.5	342.5	415.5	493	703.5
2003	14.5	25.5	33	48	60	101.5	144.5	159.5	192	204	248.5	254	301	309	309.5	309.5	338.5	498.5	668.5
2004	9.5	17	23	39.5	62	78	104.5	112.5	128.5	150.5	180.5	192	230.5	246.5	254	262.5	275.5	350.5	449.5
2005	13	23	28	40	46.5	66.5	103	130.5	156	215	256.5	285	340.5	366.5	381.5	389	432.5	557.5	725
2006	11.5	22.5	32.5	58	99.5	127	151.5	179	183	205	219	247	266	270	285.5	308	310.5	515	643.5
2007	17	26.5	34	42	50.5	60.5	66	70	81	99	114.5	146	185.5	207.5	244.5	254	260	416.5	544.5
2008	15.5	22	30	43	70	125	196.5	228.5	251.5	277.5	311.5	389	451.5	453.5	474.5	491.5	555.5	968.5	1563.5
2009	10.5	19	27	42	50	72.5	97.5	107.5	119	127.5	129.5	147.5	182	210.5	210.5	215	228	296	476.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge N08 at Staff Quarter (Block C), Pik Uk Prison, Clearwater Bay

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	12	20.5	27.5	37.5	65.5	118.5	165	172	177.5	185	186	191	194.5	196.5	226	248.5	308	412.5	685
1985	12.5	23.5	31.5	54	60.5	93	126.5	160.5	170.5	189	202.5	214.5	343.5	353.5	364	366.5	377.5	593	918
1986	9.5	15.5	22.5	39.5	57	96	120	129	146	170.5	203	239.5	283.5	306	319.5	319.5	343	592.5	795.5
1987	12	20	25	43	60.5	78.5	93	104	117.5	127	163.5	210	236	292.5	294	359	406	535	663
1988	9.5	16.5	24.5	39.5	54	61	102	107	114	114	121.5	196	225	227.5	229.5	229.5	230.5	347	645.5
1989	11.5	20.5	22.5	40	56.5	77	136	137	142.5	176.5	194.5	210.5	227	228	234	235	238.5	262.5	499
1990	10.5	17.5	25	38.5	54.5	61.5	95	123.5	126	127	135.5	147	164	194.5	199.5	201.5	203	313.5	520.5
1991	9.5	16	24	33	51.5	72	91.5	99	106	116.5	125	135.5	259	281.5	282	282	282	334	409.5
1992	13	22.5	31	56	95	122.5	134	142.5	172	240	240.5	240.5	289	308	318	318	354.5	547.5	722
1993	11	20.5	27	42	66.5	116.5	149	160	167.5	186.5	209.5	241.5	355.5	419	479.5	495.5	497.5	593	804.5
1994	10	19	27.5	46	72.5	113.5	159	163	164.5	215.5	253.5	264.5	411.5	566	648.5	669.5	703	920	1241.5
1995	12.5	24.5	36.5	58.5	85.5	100	112	139.5	161.5	202	286.5	378.5	433	540.5	570	575.5	577	1121	1415.5
1996	12.5	20	26.5	40.5	52.5	65	79	81	103.5	137.5	175.5	184.5	285	338	346	355.5	422.5	593.5	755.5
1997	11.5	19.5	27.5	48	71.5	112.5	200	232.5	294.5	297.5	297.5	320.5	414.5	480.5	499	508.5	525.5	856	1524.5
1998	13.5	26	34.5	56.5	70	116.5	172.5	213	246	351	432.5	468.5	503	549	558.5	569	641	767	1089.5
1999	11	17	21.5	34	46.5	59	92	107	117	125.5	166	201	357	450.5	472.5	473	479	554	775.5
2000	12.5	24	34.5	59.5	90.5	126	158	185	195.5	222.5	236	252	275	302.5	356.5	380	399	453.5	799
2001	14	27.5	39	64.5	85	119	154.5	168	176.5	185.5	220	237.5	356.5	399	492.5	593.5	681	833.5	1492
2002	15.5	26	35	44	63	100.5	137.5	156	184.5	208.5	239	329	427.5	668	696	706.5	761.5	973.5	1001.5
2003	11.5	21.5	31	45	61.5	84	97	116	143	149	170.5	175	309	340.5	351	394.5	434	544	806
2004	16	31	40.5	63.5	84	105	139	144	154	169	170	172.5	180.5	191	203.5	210	226.5	416.5	526
2005	14	20	25	42.5	66	105	119.5	131.5	152.5	198	295	383	529.5	589.5	652.5	679.5	721	871	1081
2006	10.5	20.5	29.5	47	76.5	117	140	155.5	168	254.5	322	327	363.5	402.5	411	411	426	511.5	816
2007	10.5	18	23.5	34	53	69.5	75	100.5	109.5	125	134	153.5	214	311	328	370	413.5	453.5	732.5
2008	14.5	28	39	62	99.5	150.5	186	219.5	234	254.5	273	352	380.5	392	428	445	504	936.5	1492.5
2009	11	18.5	25.5	42	61	64	85	92	106	116	149.5	172	210	220	220	229	287	302.5	559.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge N09 at Meteorology Laboratory, Chinese University, Tai Po Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	14	24.5	34.5	55	77	96.5	122	125.5	126.5	127.5	139	151.5	185	201	201.5	202.5	227	313	564
1985	10.5	17	25	39.5	63.5	102.5	129.5	136.5	141.5	153	160	175	253.5	296	345	355	445.5	634	1025
1986	11	18	24	33	55.5	83.5	141	152.5	166.5	186	210.5	254	334	343	343	343	351.5	496	707
1987	12.5	22.5	27	40	68	120.5	152.5	178	180	240	269	277	344	368	372	372	378.5	483.5	600.5
1988	8.5	16	24	35.5	50	68.5	84.5	99.5	103.5	103.5	109.5	173.5	206	214	244	279.5	310.5	467	774.5
1989	13.5	25	38.5	60.5	80.5	93.5	94.5	123	163	235	294.5	325	357	362	363.5	371	380	423	655.5
1990	10.5	16.5	20	30.5	54.5	86.5	98	107.5	110	110.5	132	141.5	151.5	165.5	174	175.5	192.5	292.5	409.5
1991	10	18.5	26	32	46	86.5	99.5	99.5	99.5	101.5	101.5	101.5	155	183	191.5	195	216.5	283.5	374.5
1992	8.5	15	21	33.5	52.5	62.5	87.5	110	134	158	172.5	174	180.5	241	254	273.5	372.5	459	608
1993	9.5	17.5	23.5	42.5	69	110	139.5	154.5	170.5	230	280.5	321	489	542.5	581.5	585.5	589.5	709.5	810.5
1994	17.5	30.5	40.5	51.5	83.5	104.5	168.5	181	213.5	264	293	308	380.5	482	525	542	570	722	1236
1995	21.5	38	50	60.5	77	108.5	158.5	183.5	185.5	198.5	220	238.5	355.5	473	479	480	484.5	937.5	1293.5
1996	14.5	27.5	35	56	81.5	131	173.5	173.5	173.5	173.5	176.5	179.5	240	276	276	282	419	609.5	819.5
1997	15	29.5	41	62	110.5	168	249.5	317	367	435	667.5	800	897	979	1002	1019	1067.5	1308	1786
1998	13.5	25.5	37	58.5	98	146	173	178	204	253	340	375.5	405.5	460	473.5	476.5	508.5	645	1012
1999	14	27	33.5	48	75	106	141.5	173	187	203	259.5	319.5	513	692	729.5	730	747.5	835	1078.5
2000	11.5	19	28	49	75.5	91.5	121	126	130	154	176	193.5	208.5	280	336	365	370	401	662
2001	13.5	24	31.5	43	66.5	116	153.5	162.5	171	196	209.5	228	313.5	411.5	450	498	600.5	791.5	1405.5
2002	10.5	18.5	26	49.5	67	118	164.5	194.5	214.5	244	281	285	382	527	564	600	684	765	879
2003	9.5	17.5	23.5	35	44.5	78	121	156.5	182.5	203.5	228.5	262.5	333.5	363.5	364	366	373	489	752
2004	10	19.5	25.5	38	51.5	70.5	107.5	123.5	127	140	153	166	195.5	209.5	217.5	222.5	235	346.5	460.5
2005	13	23	27.5	46.5	73.5	82.5	126	142.5	151.5	218	293.5	361.5	490	544	614	676.5	738	883	1110
2006	15	27.5	32	49.5	71.5	107	130.5	198	200	216.5	297.5	309.5	340	398.5	415.5	415.5	491	624.5	890.5
2007	11	20	28	40.5	56	60	63.5	70.5	80.5	99.5	107	133	180	235.5	274	334	368	448.5	755
2008	12.5	21	29	54	98.5	148	214	241	250	260	270.5	330	454.5	457.5	478	524	614	1147	1697
2009	14.5	29	40	59	62	73.5	106	111	117	147.5	171	196	254.5	274.5	276	277	299	386	630

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge N10 at Emmanuel Primary School, 13 Miles, Castle Peak Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	11	17	20.5	26	30.5	42	52.5	61.5	65.5	95	100	104.5	135	158.5	158.5	184	207.5	305.5	461.5
1985	12.5	17.5	20.5	32	44	67.5	84	100.5	112	131.5	139	144	197	200	212	217	260.5	476.5	749
1986	15.5	22	31	56	94	136.5	169	189.5	201	220.5	229	271	282	310	316	316.5	316.5	423	720.5
1987	10	17	23	32.5	52	76.5	113.5	119	127.5	191	218.5	226.5	291.5	320.5	335.5	341	360	580	659.5
1988	10.5	19.5	27	40	62.5	81	109.5	132	149.5	182.5	192	242.5	318	318.5	322	322	322	378	644
1989	14	22.5	29.5	40	60.5	76	107	130	173	232.5	321.5	346.5	362	365.5	368.5	377	380	389	615.5
1990	8	14.5	16	27.5	36.5	38	53.5	62.5	72	79	112.5	134	150.5	171.5	183	201	202	238	308
1991	7.5	15	17	23.5	41	46.5	57	68.5	80	102	102	115.5	221.5	256.5	259.5	259.5	273	344	424
1992	14	26.5	39	63.5	71.5	107	151	185	210	242.5	250.5	250.5	252	271	305.5	316.5	347	432	577
1993	12.5	22.5	28.5	45.5	80.5	116	135	148.5	152	154	176.5	209.5	345.5	387.5	428	430	440	600.5	783.5
1994	16	30	41.5	68	85	126.5	144	190	234	285	347	363.5	459	556	587	609	617.5	920.5	1617.5
1995	8.5	15	22.5	35.5	45	82.5	117	134	157.5	173.5	195.5	197.5	230	279.5	425	430	430	565	779
1996	15.5	25	28	35.5	59.5	72	89	104.5	116.5	143.5	177.5	220.5	303.5	325	325	325	385.5	455	594.5
1997	13.5	23.5	35	56	89	120	147	176	184.5	196	315	379.5	485	555	590.5	608	675.5	861	1228.5
1998	12.5	19.5	26.5	40.5	47	70.5	122	128.5	150	206	280.5	305	321	371.5	381	394.5	462.5	573.5	918
1999	14	26.5	39.5	73	120.5	176.5	230.5	284	314	339.5	432.5	492	709	795.5	831	831.5	868	909.5	1206.5
2000	12	22.5	32	48	56	63	85	100.5	111	122.5	137.5	154	181	237.5	254.5	272.5	275	358	586.5
2001	22.5	34	43.5	70	88	102	163	185.5	195	203	207	226.5	410	527.5	596	696.5	800.5	936.5	1460
2002	11	20.5	28	45	73.5	102.5	107.5	145.5	165	174.5	176	177	239	343	394	480.5	507	652	845.5
2003	10.5	19	27.5	43.5	69.5	112.5	210.5	264.5	272	284.5	305	339	372	398	399	400	404	523.5	615
2004	10.5	20	29	54	75.5	92.5	104.5	115	125.5	133	160	172	209	220	229.5	298	316.5	396	480.5
2005	13	22	30	55.5	78.5	81.5	131.5	163.5	202.5	261.5	346	383	489.5	541.5	575.5	615.5	660	818.5	1068
2006	16.5	31.5	39	65.5	96.5	151	193	202	203.5	208.5	217	233.5	284.5	326.5	343	346.5	416.5	711	892
2007	12.5	24	30	36.5	42	51	64	87	97.5	134.5	137.5	140	151	179	200	241.5	300	411.5	591.5
2008	11.5	20.5	29	48.5	80.5	116.5	146.5	161	195	218.5	254.5	316.5	443.5	454.5	455	487	541.5	829.5	1296
2009	10.5	17	24	37.5	61.5	68	88	101	104	112	119.5	142.5	188	210	244.5	268.5	275	334	464.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge N11 at Tsing Yi South Fire Station, Tsing Yi Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	8.5	15	21	26.5	38	45	58	65.5	76	97.5	103.5	106	138	164	164.5	165.5	182	275	399.5
1985	10.5	18.5	25.5	36.5	53	82	91.5	102	105.5	146	147	154.5	181.5	190.5	222.5	230.5	232.5	399.5	634
1986	10	19.5	23	33	40	57	89.5	95	95	95	100.5	143.5	146.5	152.5	157.5	158	160	305	434.5
1987	14.5	27.5	32	43	53.5	81.5	112.5	127.5	132	175	192.5	208.5	263.5	293.5	298.5	311.5	333	444	559.5
1988	11.5	20	29.5	40.5	54.5	81.5	103	122.5	122.5	122.5	141.5	169.5	198	199	199	250	298	351.5	593.5
1989	15.5	24.5	31.5	36.5	52	73.5	114	125	165	220.5	302.5	337	357	357.5	358.5	363.5	366	375.5	640
1990	10.5	20	24.5	29.5	54	88	111	129	130.5	132	142.5	172.5	183.5	199.5	207.5	216	223	268	361
1991	11.5	18	23.5	37	49.5	56.5	71	82	104	120	120	133.5	224	259.5	265	265	271	325	375.5
1992	10	18.5	26	39	63	99	126.5	155.5	170.5	201	209.5	209.5	262	273.5	315	315	346.5	494.5	639
1993	10	18.5	23.5	42.5	78	121.5	130.5	139.5	142	146.5	152.5	161.5	272	311.5	350.5	353.5	370.5	523.5	619
1994	9.5	14.5	19.5	35.5	60	90.5	138.5	160.5	177.5	232	268.5	279.5	391	464	492	509	513	669.5	1095.5
1995	11.5	18.5	25.5	37.5	56	87.5	115.5	130.5	160	193	210.5	218.5	281	341	457	459.5	459.5	720	1044
1996	14	21.5	26.5	37.5	56.5	78	97.5	127.5	140	167.5	202	243	331.5	356	356	356	418.5	492.5	616
1997	14.5	28.5	38.5	73	121	155.5	201	236.5	261	283	283	289	379.5	438.5	457	489.5	514	663.5	1200.5
1998	13.5	26.5	34.5	51	58.5	78.5	110	134	158.5	200	263	282	337.5	402.5	408.5	409.5	477.5	538.5	750
1999	15.5	22.5	30.5	55.5	90	123	168.5	197	222	247.5	317.5	373.5	614.5	760.5	791.5	792	815.5	929	1155.5
2000	16	31	44.5	72	89.5	108	130	135	137	154	182.5	191.5	220	274.5	279	279	365	454	587
2001	17.5	32.5	44	80	101	106	146.5	154.5	161.5	184.5	185.5	202.5	288.5	334	446.5	537	695.5	842.5	1409
2002	11.5	19	28	47	79.5	113.5	159.5	182	197	198	200	201.5	259	394	405.5	407	475	550.5	756.5
2003	10.5	18.5	23	29.5	39	70	120	150.5	154.5	162.5	179	197.5	242.5	268	270	323	357	469.5	594
2004	12.5	22.5	29.5	53	75.5	87.5	115.5	137.5	157.5	161	173	177	206.5	216.5	234.5	315.5	349	408	548
2005	13.5	25	37.5	66	109.5	127.5	133.5	137.5	173.5	232.5	321.5	404	534	581.5	618	669.5	727	885	1125.5
2006	13.5	24.5	32	57.5	84.5	121.5	174.5	177.5	182	206	214	232.5	241.5	255.5	314.5	327	357	609.5	837
2007	11.5	19	25.5	41.5	50	89	106	109.5	110	124	164	197	216.5	267.5	286.5	292	294.5	404.5	644.5
2008	13	24	34.5	66.5	94.5	162.5	283.5	335	344.5	358	389	467.5	523	524	570	637	695.5	1124.5	1739
2009	11	18.5	26.5	46.5	81.5	127	135.5	135.5	135.5	148.5	155.5	155.5	189	233	326.5	362.5	371	416.5	519.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge N12 at Hong Shui House, Shui Pin Wai Estate

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	9.5	19	25	42	60.5	76	85	87	88.5	90.5	98.5	115	153.5	174.5	191.5	192	255.5	333	580.5
1985	8.5	17	24.5	39.5	50	61.5	71	92	95	101.5	125.5	133.5	198.5	198.5	204.5	228	253	450.5	723
1986	28.5	43	55	64	69	71	71	81.5	94.5	122.5	124	144.5	166.5	232.5	242.5	251.5	252	279	533
1987	14	26	35.5	49.5	65	99	130.5	140.5	145.5	202.5	212.5	246.5	290.5	313	316	321.5	331.5	473.5	673.5
1988	9	15	19	34	50.5	65.5	116	155.5	169.5	180.5	183.5	204.5	224.5	224.5	224.5	273	310.5	349.5	613
1989	14	22	22	35.5	62	82	85	91.5	96.5	136	187	226	243	253.5	253.5	256	261	302	560
1990	10	14	17.5	28.5	33.5	36	49	53	58	64.5	86	92	101.5	117.5	120	123	123	148.5	183
1991	8	14	17.5	29.5	36	46.5	60.5	85.5	95.5	96	96	99	174.5	206	213.5	215	219.5	304.5	351.5
1992	8.5	14	18.5	36	61	92	130.5	147.5	163.5	182	190.5	190.5	191.5	191.5	191.5	204.5	268	294.5	400
1993	12	22	30	48	79.5	117	172	194.5	211	217	230	255	267.5	267.5	269.5	270	275	367	514
1994	12	22.5	33	59.5	92	124	203.5	259	278.5	396	425	432.5	509.5	585.5	636	646	656	730.5	1125.5
1995	14	21.5	28.5	39.5	52.5	80	113.5	135.5	147	192.5	264.5	265	265	334	509	514	514	527.5	764
1996	12	20	27	39	42.5	44	61.5	63	63.5	69	100.5	107.5	174	192.5	192.5	192.5	233.5	322	428
1997	13	22	30.5	42.5	57.5	68	96.5	110.5	127.5	170	215.5	230.5	323.5	357.5	375	381.5	396.5	541.5	776.5
1998	12	22	32	52	73	95.5	133.5	158	164.5	168	221.5	236.5	253	289.5	292.5	302.5	357	409.5	688
1999	9.5	18.5	26	42	76.5	118	154	179.5	203	236	275.5	295	396.5	450	493	493	503.5	549.5	775
2000	15.5	24	36.5	57	83	150.5	259	351	379.5	412	444.5	458.5	469.5	469.5	469.5	469.5	469.5	649.5	889.5
2001	17	28	33	39	63	99	151.5	182.5	186.5	223.5	238.5	240.5	286	365	424	436.5	535	607.5	1148
2002	12	23.5	34.5	57	79.5	117.5	144.5	149	155.5	162.5	163	194.5	209	259	295	330	362.5	513	676
2003	14	25	34.5	56.5	77	113	144.5	159.5	188	196	237	243.5	292.5	296.5	298	298	322	375	549.5
2004	11	21	27.5	37.5	51	68.5	73	81.5	93	145	164	177.5	216	225.5	243	246	264	352.5	446.5
2005	14	26	35.5	52.5	60	64	99.5	129.5	147	198.5	233.5	261	312	342	381	397	432.5	580.5	751.5
2006	11	21	29	40	61	81.5	135	151.5	174.5	188.5	208	223.5	241	245.5	257	284.5	305	441	661.5
2007	13	22	29	57	69	72	74.5	87	98.5	114.5	118	124	160	190.5	209	221.5	280	341	567.5
2008	10	18	26	39.5	65	97.5	136.5	163	176.5	197	223.5	282	347	348.5	407.5	419.5	507.5	895.5	1397
2009	14	26	33	47.5	58	86.5	95	97	98	106	116	141.5	184	203	204	204.5	210.5	281	410.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge N13 at Yuen Ng Fan, High Island Reservoir

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	19	32	40	61	112	171.5	227	234	235.5	238.5	240	240	241	241.5	255	280	302.5	434	580.5
1985	13	24.5	33.5	59.5	104	126	141	142	143	145	158	169.5	299	306.5	307	337.5	434.5	596.5	886.5
1986	18.5	36	47	73	97.5	99.5	137	153.5	165.5	191	217	239	303	307	307	307.5	335.5	469	594
1987	12.5	24.5	35.5	59.5	96	144	165.5	184.5	208.5	251	308.5	320	361.5	422.5	440.5	487	578	735	874
1988	9	16	20	31	41.5	58	72	77	83	92	100.5	126.5	162	200.5	237	275.5	338.5	383.5	600.5
1989	20	35	40.5	61	79.5	96	128.5	158	187	191	201.5	216	222.5	229.5	236	236	242	444.5	687.5
1990	12.5	22	27	41	67.5	94	161	181	193.5	193.5	193.5	194	252.5	254.5	407	414.5	428.5	496.5	698
1991	6.5	11	14.5	26.5	41	67	79	100.5	109	117	118.5	131.5	212	256	271	271	273.5	331.5	418.5
1992	15	26.5	37.5	71	121.5	167.5	179.5	188.5	205.5	294.5	294.5	294.5	334	346.5	355.5	358	492.5	688	850
1993	14.5	24	31	45.5	66.5	123.5	191.5	231.5	253.5	277.5	282.5	285	297.5	315	362	377.5	486.5	643	890
1994	12.5	21.5	28.5	47	82	103.5	115.5	128	177.5	200.5	302.5	314.5	440.5	589.5	658	743.5	759	1026	1368.5
1995	19	30	34.5	46	67.5	80	143	162.5	172	185.5	209	219.5	306	411	435.5	435.5	438.5	835.5	1069.5
1996	16	22	30	48.5	82.5	102.5	130.5	146.5	165	196.5	217.5	234.5	375	458	461.5	472.5	474.5	613.5	771.5
1997	13	22	28	43.5	72	103.5	134	149.5	164	179.5	266	330.5	481	571	606.5	622.5	659.5	806	1193.5
1998	15	26.5	37	59.5	92.5	123	160.5	190	212	333	411.5	452	497.5	537	547.5	557.5	657	751	1044
1999	8.5	15.5	19.5	30	52	70.5	120	135.5	143.5	146	164.5	193	366	448.5	519	522.5	529	646	844
2000	10	15	19.5	36	62.5	91.5	109.5	121	137.5	164	182	193	212	252	261	261.5	261.5	360	610.5
2001	12.5	24	32	56	85.5	111	160	172	212.5	224	224	228.5	321.5	408	498.5	516.5	650.5	745	1130.5
2002	11	21	26.5	37.5	56	88.5	129.5	148.5	152.5	168.5	171.5	220	260.5	349	360	395	457	584.5	739.5
2003	13.5	21.5	26.5	44	57	77.5	81.5	92.5	124	137	161	223	296.5	350.5	351	352.5	411	517	604
2004	17	27.5	33	43.5	67.5	115.5	177.5	224.5	225	225	230	232.5	232.5	232.5	232.5	232.5	240.5	364	607.5
2005	13.5	20.5	24.5	39	45.5	73.5	101	112.5	125.5	171	220	306	447.5	540.5	566	602.5	630.5	763.5	946
2006	14	26	35	56	103	153.5	163	165	168	213.5	268	329.5	354	363	374	390	395.5	705.5	898
2007	10.5	19.5	27.5	40.5	46	50	59.5	69.5	79	85	120	148	182.5	232.5	254	257	275	355.5	650
2008	16.5	30.5	41.5	59	83.5	111	130.5	176	188.5	207.5	229.5	339	373	378	493.5	541	653	1070.5	1628
2009	13	19.5	23.5	38	64.5	86	104.5	109	112	116.5	126.5	137.5	143	147	155.5	155.5	189	307.5	519.5

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge N14 at Wireless Station, Tai Mo Shan, Tai Mo Shan Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	14.5	24.5	30.5	44.5	57.5	73.5	88	99	117	142	158	177.5	187.5	189	196.5	208	241	427.5	647
1985	11.5	22	28.5	44	61.5	89.5	118	128	138.5	189	287.5	305.5	419.5	422.5	441.5	444	511.5	763	1300
1986	28.5	45	58.5	72.5	101.5	154	197	210	228	248.5	270	314.5	355	414	436.5	448	474.5	687	1055.5
1987	8	13.5	19.5	32.5	44	62	76.5	79.5	82	120.5	138.5	169	231	243	258	286	298.5	511.5	590
1988	11.5	22	29.5	49	68.5	136.5	157.5	182	182	182	191.5	282	357	374.5	387.5	388	390.5	499.5	786
1989	12	22.5	30.5	38	61.5	108	194.5	255.5	319	408.5	490	566	642.5	652	655	665.5	673	703.5	961
1990	13.5	23.5	30	46.5	58.5	69.5	87.5	95.5	109	131	181	201	234	264.5	273	291.5	309	414	640.5
1991	8.5	13	16.5	25	31.5	49.5	59.5	76	87.5	113	145.5	150.5	152	179.5	207	238.5	244.5	362.5	573
1992	16.5	28.5	36.5	66	84	117.5	156	194	224.5	263.5	273	275.5	294.5	304.5	317.5	318	409	602.5	853
1993	13	22.5	32.5	54	99.5	149	176.5	187	209.5	259.5	315.5	373.5	547.5	633.5	668.5	674.5	693	1011	1196.5
1994	38.5	68.5	103.5	170	211.5	255.5	365	457.5	558	793.5	897.5	956	1215.5	1359.5	1449.5	1496	1519.5	1860	2891
1995	23.5	46.5	65	91.5	112	155	187.5	308.5	337	353	403	406.5	601.5	806.5	815	816	821.5	1402	1752
1996	12.5	18	23.5	32.5	53.5	63.5	103	114.5	131.5	156.5	194	202.5	290.5	340	341.5	342	483.5	705.5	806.5
1997	21.5	41	55	79	118.5	160.5	226	245.5	249	286	400.5	487.5	590.5	689	745	786	847	1104	1639
1998	16.5	29.5	44.5	72	92.5	134.5	179	188	209	267.5	375.5	405.5	441	494.5	509	513	577	826	1151.5
1999	11	19.5	29.5	57	99.5	155	227.5	264.5	310.5	366	470	565	871.5	966	1032.5	1033.5	1073.5	1108.5	1543.5
2000	20	32.5	40.5	65	108.5	184.5	212.5	235	257.5	286.5	307.5	324.5	339.5	341	341.5	343	346	509	732.5
2001	19.5	30	39	65.5	98.5	132.5	169	197.5	235.5	245.5	249	261	427	644.5	731	849	965.5	1143	2071
2002	10.5	19.5	26	41	68.5	91	107.5	141.5	156.5	187.5	189.5	191.5	315.5	480	496.5	500	646	736.5	995.5
2003	15.5	30	42	64	87	92	129.5	158	174.5	193.5	221.5	263	325.5	343.5	378.5	434.5	468	670	914.5
2004	10	18	25.5	39	58	93.5	99	122.5	126	138	188.5	212.5	248	274	290.5	309	311	396	532
2005	12.5	23.5	32.5	54	75.5	93	119	153.5	177.5	254.5	318	360.5	483	593.5	665.5	727.5	769.5	1007	1401.5
2006	13.5	25.5	38	73	121.5	170	212.5	225	228.5	230	337.5	342.5	365.5	405	427.5	462	529.5	870.5	1149.5
2007	15.5	29.5	37.5	53	65	70.5	80	104.5	112	135.5	141	150.5	221	263.5	280.5	309.5	354.5	514.5	760
2008	11	20.5	26.5	45	74	113.5	159	193	241.5	297	382.5	428	599.5	614	616	656.5	698	1153.5	1758.5
2009	14	23.5	33.5	52	71	87	117	140.5	163.5	177.5	197.5	204	246	284	435.5	485	507.5	634	814.5

Note: The unit of annual maximum rainfall depths is in millimetres.

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Raingauge N15 at Sung Tsun Secondary School, Yau Ma Po, Po Tung Road

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1984	9	16	22.5	39.5	54.5	59.5	71.5	100	126	149	200.5	210.5	240	261.5	261.5	269	306	453	611
1985	13.5	24	31	37.5	57.5	89.5	105.5	109	119.5	144.5	150	160	239	274.5	310.5	319	394	623	964
1986	14	27.5	38.5	65	85	97	137	181	205	209.5	209.5	245	284.5	288.5	308.5	310.5	320.5	599	849
1987	16.5	26.5	32	55	84.5	116.5	139	147	158.5	167.5	211	280	315	321.5	324.5	372	415	552	774.5
1988	9	17.5	26.5	39	52	72.5	103.5	109	116.5	116.5	121.5	173.5	202.5	209	241	306.5	361.5	438	737.5
1989	13	22.5	27	30.5	48	71	108	114.5	142	190.5	219	236.5	256.5	259	260	265	270	280.5	528
1990	11.5	16	23	34.5	53.5	84	128.5	146	152.5	154	160	162	174.5	207.5	267	272	278	311.5	551.5
1991	9	15	21.5	32	40.5	52	81	85.5	90	93	93.5	105	174.5	209.5	219	219.5	222.5	318.5	403.5
1992	10.5	19.5	28	50	65.5	111	131.5	132.5	134.5	203.5	204.5	217	252.5	271.5	275.5	309	381.5	502.5	654.5
1993	13	22.5	28.5	45.5	68	112	148.5	164.5	175	199.5	220.5	227	346	400	453	463.5	511	634.5	845.5
1994	13	20	26	40.5	61	89	162.5	184.5	205	228.5	324	336	487.5	666	737	764.5	788.5	998.5	1509.5
1995	21.5	34	41.5	52	85.5	104.5	164	193.5	200.5	211	229	259.5	385.5	522	535	535	538.5	934.5	1195.5
1996	13.5	17.5	21.5	35.5	57.5	71.5	100.5	116	131	162.5	189.5	192.5	290	336	339	347	380.5	524	599
1997	13	19	23.5	40.5	62.5	83	128	155.5	181.5	227	284.5	357.5	455.5	548	564.5	573	599	835	1312.5
1998	14	26.5	33.5	52	87.5	141.5	218.5	237	268	358.5	515	562	604	635	648	653	692	810.5	1155
1999	14.5	29	40	58.5	78.5	117	130	153.5	186	206	225.5	237.5	382	575.5	604.5	605.5	614.5	699.5	943.5
2000	12.5	24.5	32	56.5	79	96	113	123	126.5	147	157.5	167	187.5	200.5	250.5	269	285.5	356	600.5
2001	11.5	19	26.5	41	56.5	104.5	135.5	152	160	168	198	214	282.5	329	422	542	684.5	759.5	1272
2002	11.5	23	34.5	46.5	64.5	103.5	118	145.5	161	185.5	216	226.5	300.5	467.5	505.5	522.5	575.5	741	816.5
2003	12.5	23	31.5	48.5	73	95	109	146	160	179.5	199.5	206	357	432.5	435	435.5	546.5	635	734.5
2004	11	22	29.5	45	71.5	96.5	114.5	135.5	163	173	174.5	174.5	174.5	174.5	185	191	213.5	339	499
2005	11	20	26	34.5	54	84.5	127	142.5	144	164.5	220.5	284	412	469.5	539.5	606.5	646.5	800	932
2006	12	22.5	31.5	47	73.5	110.5	133.5	154	164	178.5	218.5	239	261.5	291.5	296.5	347.5	349	640	837
2007	12	21	28	41.5	59	60	61.5	79.5	87	99.5	128.5	160	196	266.5	314	396	417.5	443.5	771.5
2008	16.5	30	40.5	61	85	119	145.5	174	179.5	191.5	223.5	296.5	365.5	371	393.5	445.5	516	966.5	1495
2009	13	18.5	23.5	36.5	53	76	105	110.5	113	125.5	137	151	197.5	216.5	223	230	236.5	351	542

Note: The unit of annual maximum rainfall depths is in millimetres.

Raingauge N16 at Tak Chi House, Hau Tak Estate

Year	5-min	10-min	15-min	30-min	1-hour	2-hour	4-hour	6-hour	8-hour	12-hour	18-hour	1-day	2-day	3-day	4-day	5-day	7-day	15-day	31-day
1985	17	30	39.5	56	67.5	105.5	133	133.5	133.5	135.5	150.5	197.5	279.5	288	295.5	296	334.5	509.5	707.5
1986	9.5	18	26.5	48	65	73	93.5	104	110.5	113	123	151.5	180	186	201	201	221.5	370.5	532
1987	9	13.5	19	34.5	62	87.5	102.5	110	125.5	142.5	173	189	223.5	288.5	289	336	400.5	529	643
1988	8	13	19	25.5	34.5	44.5	58.5	61	63	63	73	108.5	135.5	137	137	152.5	201.5	280	483.5
1989	9.5	16.5	22.5	42.5	66.5	89.5	152	154.5	161.5	186	206.5	222	236.5	237	241.5	242.5	245.5	267.5	511.5
1990	8.5	14	21	31.5	42.5	58.5	76	91	99.5	102	130.5	151.5	166	215	239	240	259.5	297.5	393.5
1991	9.5	18	25	41.5	65.5	99.5	110	111.5	123	162.5	162.5	162.5	184.5	199	204.5	206.5	212	351.5	454
1992	14.5	26.5	38	72.5	133	157	170.5	187.5	224.5	282	282.5	282.5	328.5	338.5	358.5	358.5	359	445	643.5
1993	11	19.5	27	50.5	81.5	126.5	155	165.5	170.5	180.5	198	220	343.5	415	478.5	492	496	591	691
1994	12	22	26.5	41	50	72	121	127	132.5	175	239	259	386	563	638	666	683	971	1191
1995	16	25.5	31.5	56.5	68.5	100.5	145	168	177.5	229	299	344	403.5	459.5	491.5	493	493.5	932	1119
1996	15.5	22	24.5	33	58	79	98.5	110.5	134.5	151	175	207	312	368	371.5	376	416.5	537	649.5
1997	13	24	31.5	51.5	86.5	129.5	171	205.5	221.5	227	227	255.5	438.5	517	531	543	547	809.5	1477
1998	13.5	23.5	33	58.5	79	91	131	157	197.5	282.5	320.5	360	419.5	474.5	486	507	607.5	717.5	1016.5
1999	9.5	18	27	37	49.5	71	128	142	150.5	153	184.5	199.5	362	449	470.5	472	477.5	608	880
2000	12.5	24	35	61	85.5	147.5	164.5	173.5	180	209.5	226	240.5	264.5	303	357	397.5	447	464.5	775
2001	14	23.5	32	50	70.5	79.5	107.5	147.5	149	155.5	183	198	310	358	468	567.5	660	844.5	1270
2002	12.5	23.5	32	42	74.5	115	157.5	185	213	250	279.5	371.5	465	634	646.5	654	701.5	835	868.5
2003	14	23.5	30.5	51	73.5	83.5	96.5	139.5	176.5	185	204.5	205	318.5	361	365.5	426.5	456	572	761
2004	18.5	36.5	46.5	67	88	96.5	106.5	111	117	123	124	133	148	164.5	186	213.5	232	362	515
2005	15	23	29	42.5	51	61.5	103.5	138	151.5	195.5	262	345.5	501.5	613.5	693.5	721	740.5	916	1155
2006	13	23.5	33	46	74	116.5	167.5	188	206	299	370.5	377.5	390	423	426.5	426.5	443.5	501.5	790
2007	14	21	26.5	37.5	45.5	57	69	74.5	83.5	95	124.5	160	199.5	272	319	329.5	372.5	426.5	730
2008	14	24	35.5	63	95	126	198	217.5	230.5	243	274	370	389	404.5	446	480.5	543	959.5	1531.5
2009	10	16.5	20.5	30.5	37.5	57.5	88	98.5	105.5	116.5	125	155	185.5	210	222	236.5	242	305.5	567

Note: The unit of annual maximum rainfall depths is in millimetres.

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Geotechnical Manual for Slopes, 2nd Edition (1984), 302 p. (English Version), (Reprinted, 2011).

斜坡岩土工程手冊(1998)，308頁(1984年英文版的中文譯本)。

Highway Slope Manual (2000), 114 p.

GEOGUIDES

Geoguide 1	Guide to Retaining Wall Design, 2nd Edition (1993), 258 p. (Reprinted, 2007).
Geoguide 2	Guide to Site Investigation (1987), 359 p. (Reprinted, 2000).
Geoguide 3	Guide to Rock and Soil Descriptions (1988), 186 p. (Reprinted, 2000).
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Geoguide 5	Guide to Slope Maintenance, 3rd Edition (2003), 132 p. (English Version).
岩土指南第五冊	斜坡維修指南，第三版(2003)，120頁(中文版)。
Geoguide 6	Guide to Reinforced Fill Structure and Slope Design (2002), 236 p.
Geoguide 7	Guide to Soil Nail Design and Construction (2008), 97 p.

GEOSPECS

Geospec 1	Model Specification for Prestressed Ground Anchors, 2nd Edition (1989), 164 p. (Reprinted, 1997).
Geospec 3	Model Specification for Soil Testing (2001), 340 p.

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GCO Publication No. 1/90	Review of Design Methods for Excavations (1990), 187 p. (Reprinted, 2002).
GEO Publication No. 1/93	Review of Granular and Geotextile Filters (1993), 141 p.
GEO Publication No. 1/2006	Foundation Design and Construction (2006), 376 p.
GEO Publication No. 1/2007	Engineering Geological Practice in Hong Kong (2007), 278 p.
GEO Publication No. 1/2009	Prescriptive Measures for Man-Made Slopes and Retaining Walls (2009), 76 p.
GEO Publication No. 1/2011	Technical Guidelines on Landscape Treatment for Slopes (2011), 217 p.

GEOLOGICAL PUBLICATIONS

The Quaternary Geology of Hong Kong, by J.A. Fyfe, R. Shaw, S.D.G. Campbell, K.W. Lai & P.A. Kirk (2000), 210 p. plus 6 maps.

The Pre-Quaternary Geology of Hong Kong, by R.J. Sewell, S.D.G. Campbell, C.J.N. Fletcher, K.W. Lai & P.A. Kirk (2000), 181 p. plus 4 maps.

TECHNICAL GUIDANCE NOTES

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