

Factual Report on Hong Kong Rainfall and Landslides in 2018

GEO Report No. 347

R.C.T. Wai, R.W.H. Lee & E.K.H. Chu

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

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Preface

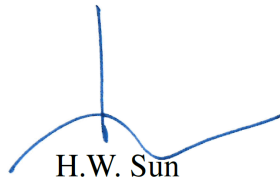
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A handwritten signature in blue ink, appearing to read 'Cheung W. M.', is centered on the page.

Raymond WM Cheung
Head, Geotechnical Engineering Office
March 2022

Foreword

This report presents a summary of the factual information on rainfall and landslides in Hong Kong throughout 2018. Details of the landslides were obtained from records of landslide incidents reported to the Geotechnical Engineering Office (GEO) of the Civil Engineering and Development Department (CEDD). Supplementary information was collected from the Agriculture, Fisheries and Conservation Department, Architectural Services Department, Drainage Services Department, Highways Department, Housing Department, Lands Department, Water Supplies Department, and the GEO's landslide investigation consultants. The Hong Kong Observatory provided weather and rainfall information. The Standards and Testing Division of the GEO carried out a review of the available rainfall records as well as rainfall analyses, and prepared Section 2 of this report. All contributions are gratefully acknowledged.

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H.W. Sun
Chief Geotechnical Engineer/LPM2

Abstract

This report presents a summary of the factual information on rainfall and landslides in Hong Kong throughout 2018. Rainfall information was obtained from the Hong Kong Observatory (HKO) to supplement the information available in the Geotechnical Engineering Office (GEO). Details of the landslides were obtained from records of landslide incidents reported to the GEO. Supplementary information was collected from the Agriculture, Fisheries and Conservation Department, Architectural Services Department, Drainage Services Department, Highways Department, Housing Department, Lands Department, Water Supplies Department, and the GEO's landslide investigation consultants, namely Fugro Hong Kong Limited and AECOM Asia Company Limited.

Rainfall recorded in 2018 at the HKO's Principal Rain gauge at Tsim Sha Tsui amounted to 2162.9 mm, a deficit of about 10% comparing to the mean annual rainfall of 2398.5 mm between 1981 and 2010. No Black Rainstorm Warning was issued in 2018. Four Red Rainstorm Warnings and 27 Amber Rainstorm Warnings were issued between 8 June and 16 September 2018, and between 6 June and 24 September 2018 respectively.

Three Landslip Warnings were issued on 7 June, 29 August and 16 September 2018. A total of 346 incidents were reported to the Government in 2018. Of these, 253 were classified as genuine landslides and 12 of them were designated as major failure (i.e. with a failure volume of 50 m³ or more, or where a fatality has occurred).

There were 16 landslides in 2018 with notable consequences. Of these landslides, one resulted in damage of a storage structure, a container and several vehicles as well as temporary closure of a road, one led to a permanent evacuation of a squatter dwelling, two led to temporary evacuation of squatter dwellings and three resulted in damage of vehicles. The remaining nine landslides resulted in temporary closure of roads. Other landslides in 2018 primarily affected open areas, footpaths or minor access roads, catchwaters and a construction site without any significant direct or indirect consequence. No fatality was reported as a result of the landslides.

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1 Introduction

This report summarises the factual information on rainfall and reported landslides in Hong Kong throughout 2018. Rainfall information was obtained from the Hong Kong Observatory (HKO) to supplement the information available in the Geotechnical Engineering Office (GEO). Details of the landslides were obtained from records of landslide incidents reported to the GEO. Supplementary information was collected from the Agriculture, Fisheries and Conservation Department (AFCD), Architectural Services Department (ArchSD), Drainage Services Department (DSD), Highways Department (HyD), Housing Department (HD), Lands Department (LandsD), Water Supplies Department (WSD), and the GEO's landslide investigation consultants, namely Fugro Hong Kong Limited and AECOM Asia Company Limited under Agreement Nos. CE 45/2015 (GE) and CE 46/2015 (GE) respectively.

In this report, a landslide is defined as the detachment or excessive displacement of soil or rock mass, and includes failure of a fill slope, cut slope, retaining wall, natural hillside, or disturbed terrain, as well as rockfall and boulder fall. A 'major' landslide is defined as a failure in which the estimated/recorded volume of the detached or displaced mass is $\geq 50 \text{ m}^3$, or where a fatality has occurred. A 'very minor' landslide is defined as a failure that is small in scale (i.e. $\leq 5 \text{ m}^3$ for failures involving soil, or $\leq 0.1 \text{ m}^3$ for rockfalls/boulder falls) and does not give rise to any significant public nuisance or notable consequences (e.g. casualty, near-miss, evacuation of buildings or squatter dwellings, road closure, etc.). Landslides that are not classified as 'major' or 'very minor' are taken as 'minor'.

2 Rainfall

2.1 The Raingauge System

The GEO, in collaboration with the HKO, operates an automatic raingauge system that transmits rainfall data through 3G mobile network, i.e. a wireless transmission technology, to the GEO and the HKO at 1-minute and 5-minute intervals respectively. The system comprises 90 GEO raingauges and 31 raingauges owned by the HKO and other government departments. The raingauges are of the tipping-bucket type, tipping for every 0.5 mm of rainfall. The locations of the automatic raingauges are shown in Figure 2.1.

2.2 Rainfall Records

The rainfall data from the raingauge system are checked, verified and stored by the GEO in a database, from which they can be extracted for analysis. This report presents a selection of rainfall parameters for the whole year of 2018, as well as individual months and individual rainstorms.

The weather in 2018, as described by the HKO (2019), is excerpted as follows:

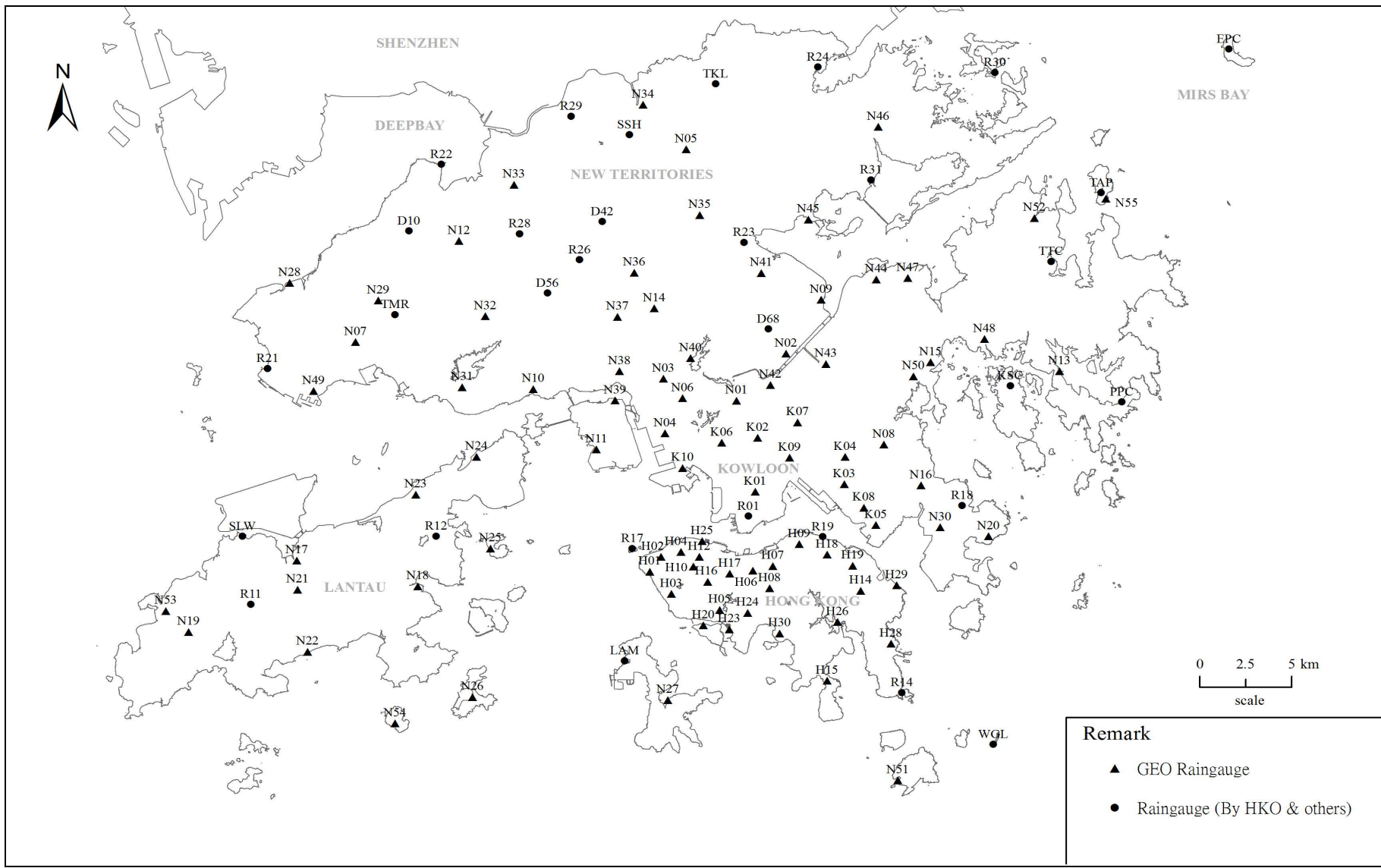


Figure 2.1 Locations of GEO Raingauges and Raingauges Operated by HKO and Other Government Departments

"The year 2018 was drier than normal in Hong Kong, mainly due to the well below normal rainfall from February to May. The annual total rainfall was 2162.9 millimetres, a deficit of about 10 percent comparing to the 1981-2010 normal of 2398.5 millimetres (or about 3 percent below the 1961-1990 normal). Four red rainstorm warnings were issued by the Hong Kong Observatory in 2018. There was no black rainstorm warning issued in the year. The number of days with thunderstorms reported in Hong Kong was 38 days in 2018, close to the 1981-2010 normal of 38.6 days."

"A total of 33 tropical cyclones occurred over the western North Pacific and the South China Sea in 2018, more than the long-term (1961-2010) average of 30. There were 13 tropical cyclones reaching typhoon intensity or above during the year, less than the long-term average of about 15, and seven of them reached super typhoon intensity (maximum 10-minute wind speed of 185 km/h or above near the centre). In Hong Kong, six tropical cyclones necessitated the issuance of tropical cyclone warning signals, near the long-term average in a year. The Hurricane Signal No. 10 was issued during the passage of Mangkhut in September, while the No. 3 strong wind signal was issued for five times during the passages of Ewiniar in June, Son-tinh in July, Bebinca in August, Barijat in September and Yutu in November."

The following is excerpted from the HKO's Monthly Weather Summary describing the weather condition when the most intense rainstorms occurred in the wet season (i.e. between April and September 2018). Further details on the monthly weather are available on the HKO Website (<https://www.hko.gov.hk/en/wxinfo/pastwx/mws/mws.htm>).

"April 2018 was warmer than usual with a mean temperature of 23.6 degrees, 1.0 degree above the normal of 22.6 degrees. The month was also much drier than usual with only 28.1 millimetres of rainfall recorded in the month, about one-sixth of the normal of 174.7 millimetres and the eighth lowest on record for April. The accumulated rainfall recorded in the first four months of the year was 117.5 millimetres, a deficit of 65 percent compared to the normal of 336.1 millimetres for the same period. ... A trough of low pressure moved across the coast of Guangdong on 24 April. The weather in Hong Kong turned cloudy with showers and a few thunderstorms during the day. More than 20 millimetres of rainfall were recorded over Hong Kong Island, Tuen Mun and Lantau Island."

"As a trough of low pressure over Guangdong moved towards the coastal areas, the weather in Hong Kong turned cloudy with showers and thunderstorms later on 7 May. More than 50 millimetres of rain fell over Hong Kong Island and Sai Kung

on the morning of 8 May as the trough swept across the territory. Cloudy and showery conditions continued for the next three days as a strengthening easterly airstream once again brought cooler weather to the south China coastal areas."

"After making landfall near Yangjiang on the night of 7 June, a weakening Ewiniar continued to drift towards the Pearl River Delta. Its rainbands brought heavy squally showers and thunderstorms to Hong Kong with more than 170 millimetres of rainfall generally recorded over the territory on 6 - 8 June. The heavy downpour necessitated the issuance of the first rainstorm warnings this year, including the Red Rainstorm Warning on 8 June. A waterspout was also spotted near Cheung Chau in the evening on 7 June. Local winds gradually subsided and the showers eased off on 9 June as generally fine weather returned."

"After a couple of fine and very hot days on 10 and 11 June, a trough of low pressure brought heavy showers and thunderstorms to the coast of Guangdong on 12 - 13 June. There was a report of waterspout near Ninepin Islands on the morning of 12 June, and more than 100 millimetres of rain fell over Sai Kung, Hong Kong Island and Cheung Chau on 13 June. The trough passed to the south of Hong Kong and local weather improved with a mixture of sunshine and isolated showers on 14 - 15 June."

"Under the influence of the southwest monsoon, local weather was a mixture of sunshine and showers on 1 - 7 July. There were also occasional heavy showers and squally thunderstorms in isolated areas during these few days. During the localized heavy showers on 5 July, more than 200 millimetres of rainfall were recorded over Tai Po District. A broad trough of low pressure continued to bring showery weather to Hong Kong on 8 - 9 July."

"The outer rainbands associated with Bebinca brought occasional heavy squally showers and thunderstorms to Hong Kong on 10 - 16 August with more than 150 millimetres of rainfall generally recorded over the territory during this period."

"Affected by a south to southwesterly airstream, the weather in Hong Kong was mainly cloudy with occasional showers and thunderstorms on 17 - 19 August. The showers were heavier on 19 August with more than 70 millimetres of rainfall recorded over Tsuen Wan, Kwai Tsing and Lantau Island. A broad trough of low pressure over the south China coast continued to bring showery weather to Hong Kong on 20 - 21 August."

"Affected by a broad area of low pressure along the coast of Guangdong, local weather started to deteriorate with heavy showers in the evening of 26 August. The heavy rain around midnight of 26 August brought more than 100 millimetres of rainfall to parts of the Lantau Island and Hong Kong Island. An active trough of low pressure continued to bring occasional heavy showers and squally thunderstorms to Hong Kong for the rest of the month. Rain was particularly heavy in the New Territories on 29 August, necessitating the issuance of the Red Rainstorm Warning, Landslip Warning and Special Announcement on Flooding in the Northern New Territories. More than 100 millimetres of rainfall were recorded over most parts of the New Territories, and rainfall even exceeded 200 millimetres over Tuen Mun, Yuen Long, Tai Po and North District. There were serious flooding over many places in the New Territories and landslides in Fanling, resulting in significant disruption of traffic. A waterspout was also reported near Ting Kau on the morning of 29 August."

"The weather in Hong Kong deteriorated rapidly during the passage of Mangkhut on 16 September. The destructive storm to hurricane force winds, severe storm surge and squally heavy rain associated with Mangkhut ravaged the territory and caused extensive damages to Hong Kong on that day, ... More than 100 millimetres of rainfall were generally recorded over Hong Kong, and rainfall even exceeded 200 millimetres over parts of the territory on that day. During the downpour, the temperature at the Hong Kong Observatory fell to a minimum of 23.6 degrees, the lowest in the month. With Mangkhut departing from Hong Kong, local winds subsided gradually on 17 September, but the outer rainbands associated with Mangkhut continued to bring squally showers to Hong Kong on that day."

"With the setting in of an easterly airstream, local weather became slightly cooler and mainly cloudy with occasional showers and thunderstorms on 24 - 25 September. Showers were heavy on the morning of 24 September with more than 30 millimetres of rainfall generally recorded over the territory and rainfall even exceeding 70 millimetres over Tai Po, Kwai Tsing and Kowloon."

The rainfalls recorded at the HKO in the first and second quarters of 2018 are 89.4 mm (45% below the normal rainfall) and 544.4 mm (44% below the normal rainfall) respectively. The total rainfalls recorded in the third and last quarters are 1339.5 mm (18% above normal) and 189.6 mm (15% above normal) respectively. The annual rainfall for 2018 is 2162.9 mm, about 10% lower than the annual normal of 2398.5 mm recorded between 1981 and 2010. The cumulative rainfall for 2018 is compared with the highest, lowest and mean rainfall in Figure 2.2.

Figure 2.3 shows the monthly rainfall distribution in 2018. Figure 2.4 shows the annual rainfall distribution in 2018, together with the locations of the reported landslides.

2.3 Rainstorms in 2018

Table 2.1 tabulates the rainfall parameters for three rainstorms in 2018, during which Landslip Warnings were issued. The parameters include the maximum 24-hour, 4-hour and 1-hour rolling rainfalls (based on 5-minute rainfall data). Table 2.1 also includes the 4-day and 15-day antecedent rainfalls at the HKO's Principal Raingauge. Similar data for selected major rainstorms in previous years are included in Table 2.1 for comparison. Other rainfall parameters for the above three rainstorms are also shown in Table A1 of Appendix A.

Figures A1 to A3 of Appendix A show the isohyets of the maximum rolling 24-hour rainfalls during the above three rainstorms, together with the locations of reported landslides with incident dates or incident reported dates that can be attributed to the rainstorm events, and the locations and values of maximum rolling rainfalls for durations ranging from five minutes to 48 hours.

The rainstorms of 29 to 30 August 2018, 16 to 17 September 2018 and 6 to 9 June 2018 caused 65, 29 and 13 reported landslides respectively.

2.4 Warnings Issued by the Hong Kong Observatory

Table 2.2 summarises the details of the Thunderstorm, Flooding, Landslip, Tropical Cyclone and Rainstorm Warnings issued by the HKO in 2018. No Black Rainstorm Warning was issued in 2018. Four Red Rainstorm Warnings and 27 Amber Rainstorm Warnings were issued between 8 June and 16 September 2018, and between 6 June and 24 September 2018 respectively. Three Landslip Warnings were issued on 7 June, 29 August and 16 September 2018.

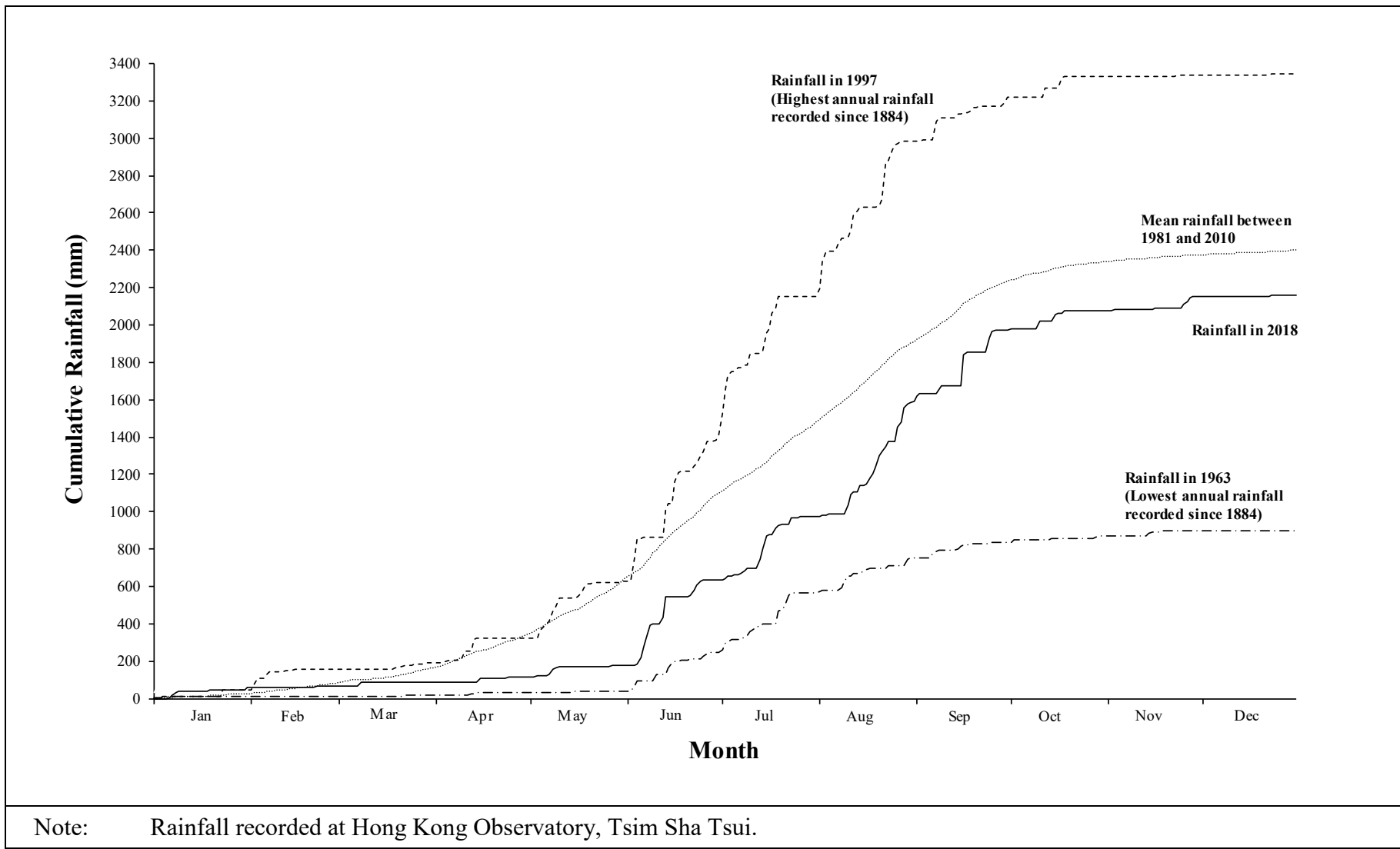
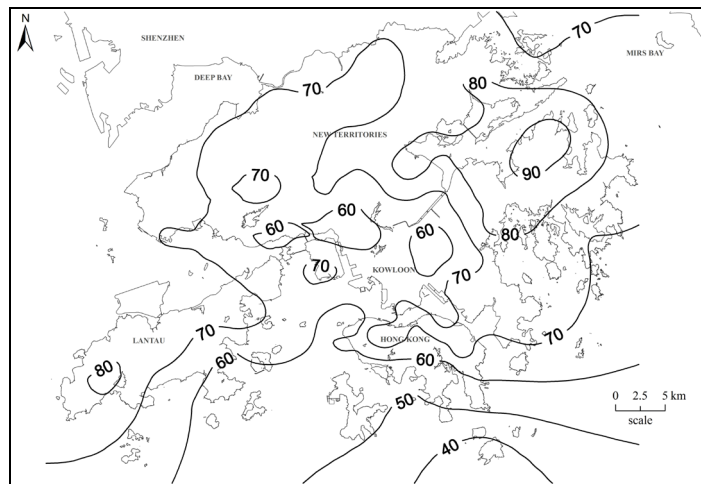
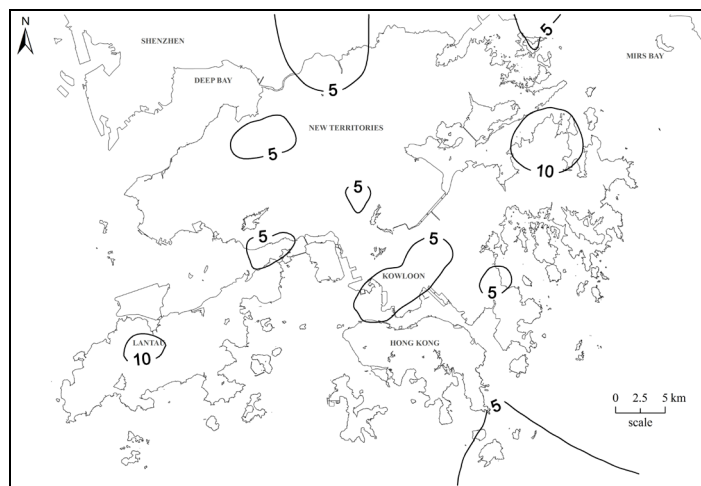


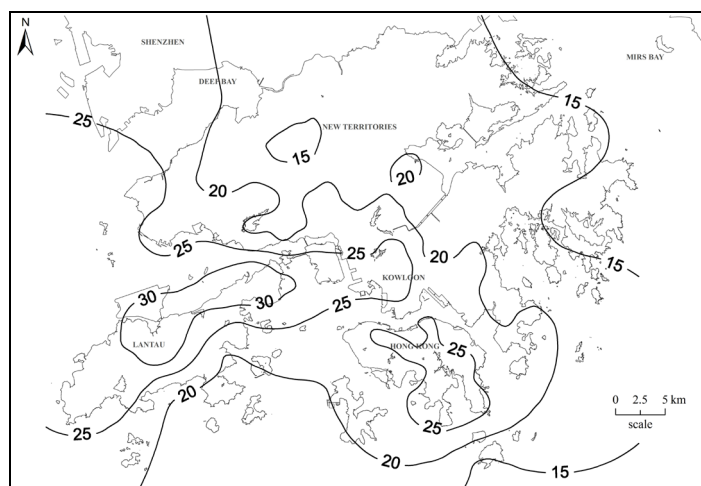
Figure 2.2 Cumulative Rainfall for 2018 at the Hong Kong Observatory and its Recorded Highest, Mean and Lowest Cumulative Rainfalls



January 2018



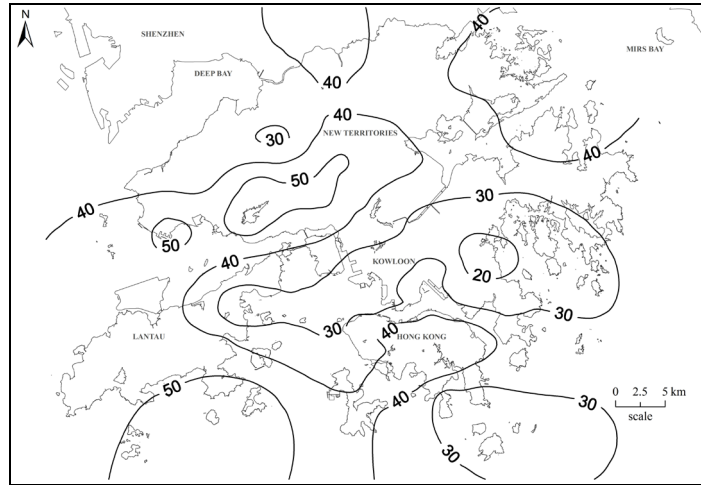
February 2018



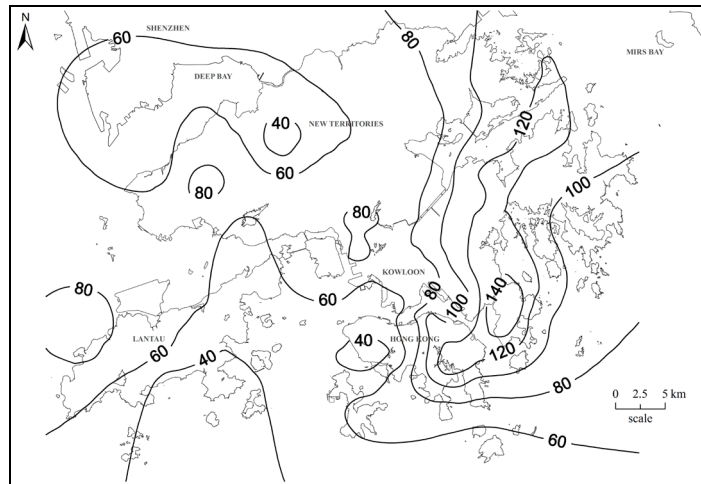
March 2018

Note: Isohyets are based on the GEO and HKO raingauges.

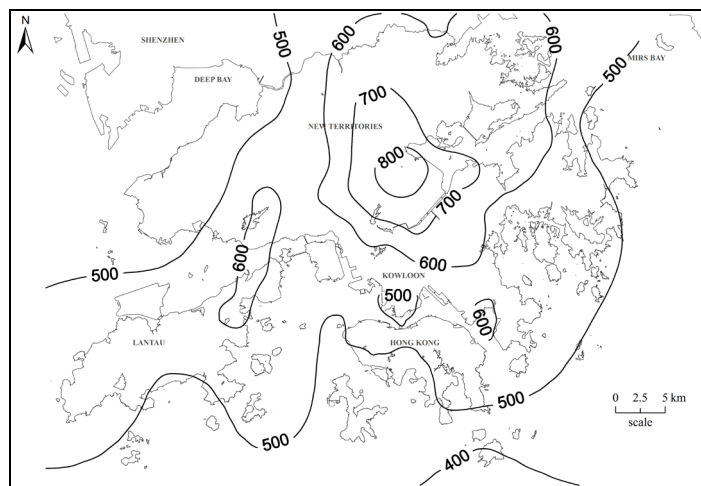
Figure 2.3 Monthly Rainfall Distribution in 2018 (Sheet 1 of 4)



April 2018



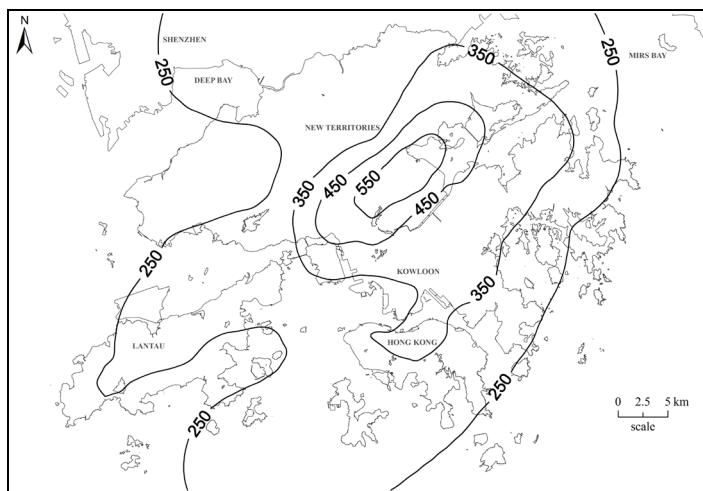
May 2018



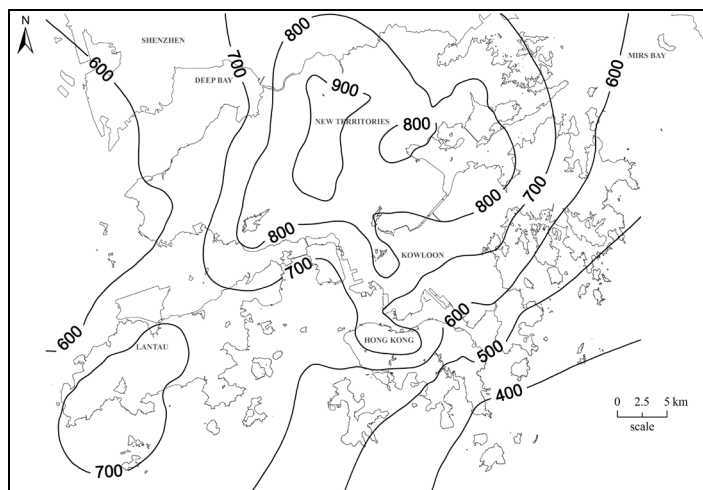
June 2018

Note: Isohyets are based on the GEO and HKO raingauges.

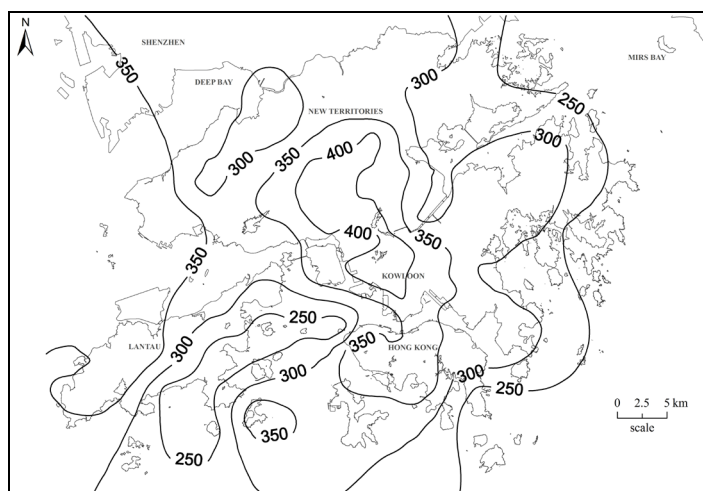
Figure 2.3 Monthly Rainfall Distribution in 2018 (Sheet 2 of 4)



July 2018



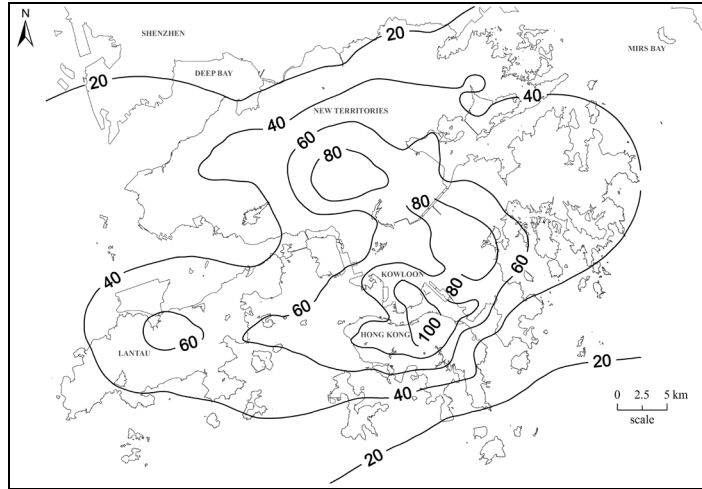
August 2018



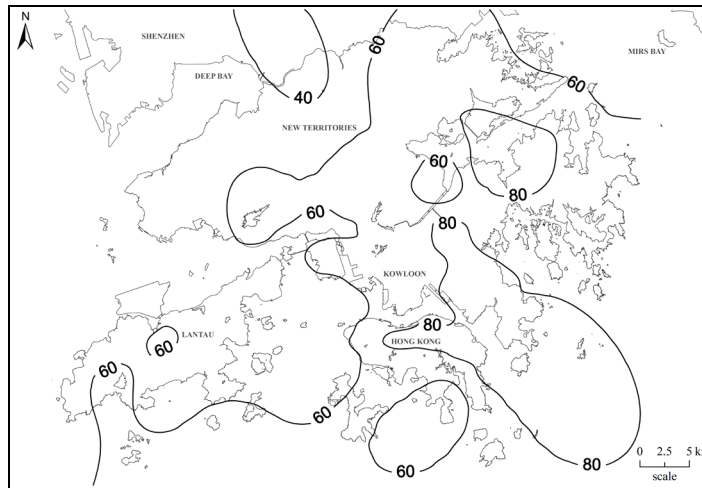
September 2018

Note: Isohyets are based on the GEO and HKO raingauges.

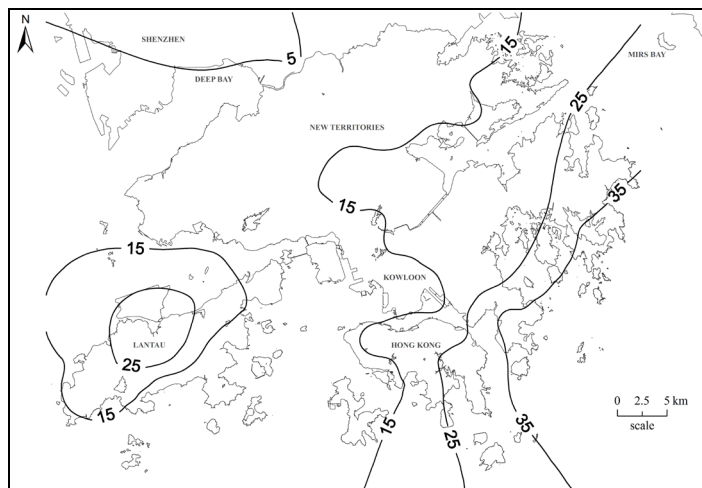
Figure 2.3 Monthly Rainfall Distribution in 2018 (Sheet 3 of 4)



October 2018



November 2018



December 2018

Note: Isohyets are based on the GEO and HKO raingauges.

Figure 2.3 Monthly Rainfall Distribution in 2018 (Sheet 4 of 4)

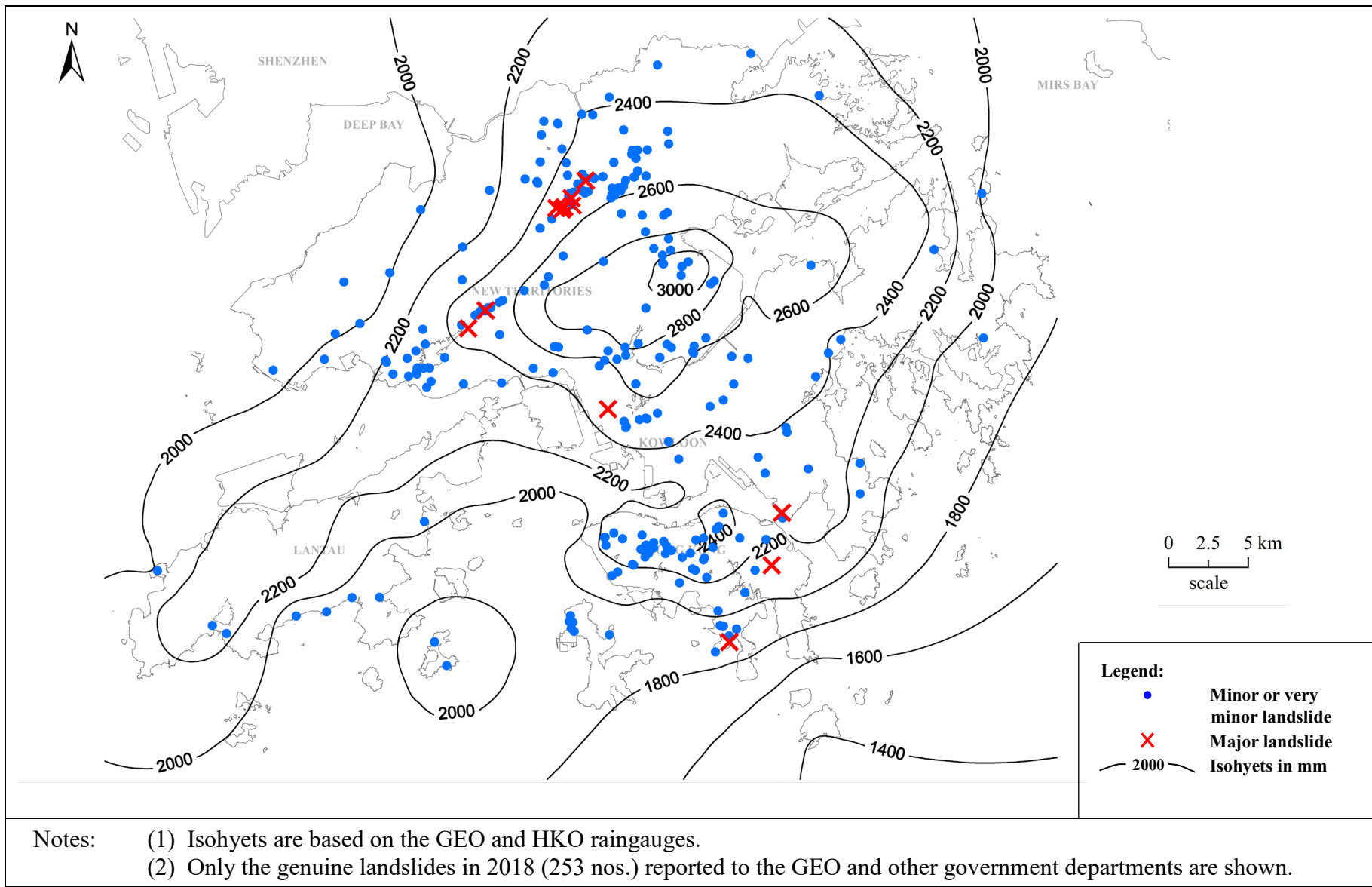


Figure 2.4 Annual Rainfall Distribution and Locations of Reported Landslides in 2018

Table 2.1 Rainfall and Landslides in 2018 and Selected Previous Major Rainstorms (Sheet 1 of 2)

Date of Rainstorm Event	Maximum Rainfall (mm) ⁽¹⁾								Number of Landslides Reported ⁽³⁾
	Hong Kong Observatory (HKO)					GEO Raingauges ⁽²⁾			
	24-hr	4-hr	1-hr	Antecedent		24-hr	4-hr	1-hr	
				4-day	15-day				
6-9 June 2018	83.5	46.5	23	40	44.5	323 (N41)	183 (N46)	101 (N46)	13
29-30 August 2018	53	8	3	172	426	381.5 (N05)	218.5 (N05)	75.5 (N31)	65
16-17 September 2018	174	88	39.5	3	84	343.5 (N37)	171 (N19)	64 (N07, N37)	29

- Notes:
- (1) The maximum rainfalls are calculated using 5-minute rainfall as the basic unit, except those recorded at the HKO, for which the rolling rainfall is calculated using one-clock hour rainfall as the basic unit.
 - (2) The maximum rainfalls are selected from the 90 GEO Raingauges for the rainstorms. The GEO Raingauge reference number is shown in brackets.
 - (3) Reported number of landslides refer to those genuine landslides that can be attributed to the rainstorm events.

Table 2.1 Rainfall and Landslides in 2018 and Selected Previous Major Rainstorms (Sheet 2 of 2)

Date of Rainstorm Event	Maximum Rainfall (mm) ⁽¹⁾								Number of Landslides Reported ⁽²⁾
	Hong Kong Observatory (HKO)					GEO Raingauges ⁽³⁾			
	24-hr	4-hr	1-hr	Antecedent		24-hr	4-hr	1-hr	
4-day				15-day					
Selected Major Rainstorms in Previous Years (for comparison only)									
20-21 May 1989	387.8	119.3	37.3	27.9	41.7	566 (N14)	194.5 (N14)	61.5 (N14)	378
7-9 May 1992	324.7	195	109.9	4.2	9.1	386.5 (H10)	243 (H10)	144.5 (H19)	314
15-16 June 1993	155.1	122.3	54.1	155.8	296.1	285 (N13)	191.5 (N13)	111 (H13)	123
4-5 November 1993	106.6	27.8	9.4	0	0	745 (N17)	285 (N17)	114 (N17)	394
21-25 July 1994	310.2	141.9	70.4	18.7	310.1	956 (N14)	365 (N14)	211.5 (N14)	208
3-11 August 1994	74.1	44.9	27.1	8.1	759.1	381 (N14)	187.5 (N14)	103.5 (N14)	46
11-15 August 1995	325.7	109.1	43.8	5.1	436.9	468 (H08)	223.5 (H14)	106 (N14)	110
3-5 June 1997	150.2	83.7	46.4	0.9	33.6	367.5 (N04)	262.5 (N04)	128.5 (N04)	81
1-4 July 1997	148.8	106.7	45.4	33.5	362.7	800 (N09)	249.5 (N09)	125 (N01)	150
8-9 June 1998	428.4	152.4	71.7	86.6	246.8	562 (N15)	218.5 (N15)	98 (N09)	96
22-26 August 1999	313.1	127.4	50.7	6.8	170.3	565 (N14)	230.5 (N10)	120.5 (N10)	269
16-21 August 2005	416.4	122.9	39.1	110.7	214.1	570 (N01)	173.5 (N18)	82 (N25)	229
6-9 June 2008	417.6	246.3	145.5	99.9	242.5	622.5 (N19)	384 (N19)	153.5 (N21)	363

- Notes:
- (1) The maximum rainfalls are calculated using 5-minute rainfall as the basic unit, except those recorded at the HKO, for which the rolling rainfall is calculated using one-clock hour rainfall as the basic unit.
 - (2) Reported number of landslides refer to those genuine landslides that can be attributed to the rainstorm events.
 - (3) The maximum rainfalls are selected from all the available GEO Raingauges for the rainstorms. The GEO Raingauge reference number is shown in brackets.

Table 2.2 Warnings Issued by the Hong Kong Observatory in 2018

Month	Monthly Total Rainfall (mm)	Dates on which Warnings ⁽¹⁾ were in Effect				
		Thunderstorm ⁽²⁾	Flooding ⁽³⁾	Landslip ⁽⁴⁾	Tropical Cyclone ⁽⁵⁾	Rainstorm
January	62.2	-	-	-	-	-
February	4.5	-	-	-	-	-
March	22.7	4, 19	-	-	-	-
April	28.1	15, 24	-	-	-	-
May	57.5	6, 7, 8, 9, 26, 27	-	-	-	-
June	458.8	1, 4, 5, 6, 9, 12, 13, 19, 20, 21, 22, 23, 24, 25, 26, 27, 30	6, 7	7-8	5-8 (1-3, EWINIAR)	6 (Amber), 8 (2 x Amber), 8 (Red), 13 (2 x Amber), 22 (Amber), 23 (Amber)
July	341.1	1, 2, 3, 4, 5, 6, 7, 8, 9, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25, 26, 27	-	-	17-18 (1-3, SON-TINH), 23-24 (1, SON-TINH)	2 (Amber), 15 (Amber)
August	615.1	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 14, 16, 17, 18, 19, 20, 21, 22, 23, 26, 27, 28, 29, 31	22, 28, 29	29-30	9-15 (1-3, BEBINCA)	10 (Amber), 11 (Amber), 12 (Amber), 17 (Amber), 19 (Amber), 20 (Amber), 22 (Amber), 26 (Amber), 26 (Red), 27 (2 x Amber), 28 (Amber), 29 (2 x Amber), 29 (Red)
September	383.3	1, 2, 3, 5, 6, 7, 8, 14, 17, 23, 24	16, 24	16-17	11-13 (1-3, BARIJAT), 14-17 (1-10, MANGKHUT)	1 (Amber), 2 (Amber), 16 (2 x Amber), 16 (Red), 24 (Amber)
October	104.3	10	-	-	31 (1, YUTU)	-
November	73.4	-	-	-	1-2 (1-3, YUTU)	-
December	11.9	-	-	-	-	-
Total	2162.9	144 Warnings	7 Warnings	3 Warnings	7 Warnings	31 Warnings (27 x Amber & 4 x Red)

- Notes:
- (1) Warnings and signals were based on the information from the HKO.
 - (2) More than one Thunderstorm Warning may have been issued within a day but have only been shown once for clarity.
 - (3) More than one Flooding Warning may have been issued within a day but have only been shown once for clarity.
 - (4) Landslip Warning was issued after consultation between the GEO and the HKO.
 - (5) Tropical Cyclone Warning signal number hoisted is shown in the bracket followed by the name of the tropical cyclone.

3 Landslides

3.1 Landslides in 2018

Landslide incidents occurring in 2018 and reported to the GEO and other government departments are summarised in Table 3.1.

Table 3.1 Breakdown of Landslides in 2018 Reported to Government Departments

Department	Reported Number of Landslides	Genuine Landslides
Agriculture, Fisheries and Conservation Department	11 (0)	11 (0)
Architectural Services Department	18 (0)	18 (0)
Drainage Services Department	0	0
Geotechnical Engineering Office, Civil Engineering and Development Department	267 ⁽¹⁾	187 ⁽¹⁾
Highways Department	21 (19)	21 (19)
Housing Department	0	0
Lands Department	9 (0)	9 (0)
Water Supplies Department	41 (2)	28 (2)
Total	367 (21) ⁽²⁾	274 (21) ⁽²⁾

Legend:

21 (19) Twenty-one incidents were reported to the government department concerned, 19 of which were also reported to the GEO separately by other parties (i.e. duplicate cases)

Notes: (1) A total of 267 landslide incidents that occurred in 2018 (discounting duplicate cases) were reported to the GEO, of which 187 were classified as genuine landslides.

(2) The number of reported landslide incidents that occurred in 2018 (discounting duplicate cases) is **346** [367 - 21]. The number of genuine landslides is **253** [274 - 21].

A total of 346 landslide incidents that occurred in 2018 were reported to various government departments. These include 267 incidents (discounting duplicate cases) reported to the GEO. Another 79 incidents were reported to other government departments (i.e. AFCD, ArchSD, HyD, LandsD and WSD). Of these 346 reported incidents, 253 were genuine landslides (see details in Appendix B). The other reported incidents were

non-landslide events such as tree falls, flooding and waved-induced scouring damage to coastal slopes under severe typhoon.

Of the 253 genuine landslides, 12 (4.8%) were major landslides (see Table B1 in Appendix B), 164 (64.8%) were minor landslides and 77 (30.4%) were very minor landslides with negligible consequences (see Section 1).

Selected notable landslides are presented in Section 4. For those landslide incidents inspected by the GEO, the information on the landslides was recorded in incident reports prepared by the GEO. For those landslide incidents attended to by other government departments responsible for slope maintenance, landslide incident reports were prepared by the respective departments. The above information is available in the Slope Information System (SIS). Further details of these slope failures can be found in the relevant files of the three District Divisions of the GEO.

Wherever possible, the dates and times of the landslides were assessed by geotechnical professionals. Of the 253 landslides, the timing of occurrence was determined to within one day for 65 incidents based on the reported date of failure given in the incident reports. For the remaining landslide incidents, the timing of occurrence could not be ascertained due to lack of information or that the incidents were not reported to the GEO or other government departments until several days or even weeks after occurrence.

3.2 Consequence of Landslides

The consequence of landslides in terms of the types of facilities affected (e.g. buildings, roads, registered squatter dwellings, catchwaters, construction sites, etc.) in different regions is summarised in Table 3.2. In regard to the landslides with significant consequences (e.g. casualties, injuries, evacuation of buildings or squatter dwellings, temporary closure of roads, etc.), they are classified with respect to the types of slope failures, as shown in Table 3.3. The facility groups affected by the major landslides are presented in Table 3.4. Further descriptions of some selected notable landslides of 2018 are given in Section 4 below.

3.3 Types of Slope Failures

Landslides reported to the GEO and other government departments have been classified into five major types of slope failures, i.e. fill slopes, cut slopes, retaining walls, natural hillside and registered disturbed terrain. The breakdown of different types of slope failures is shown in Table 3.5.

Table 3.2 Breakdown of Landslides by Types of Affected Facilities

Types of Affected Facilities	Hong Kong Island	Kowloon	New Territories and Outlying Islands	All
Buildings (including village houses)	3 (0)	0	5 (0)	8 (0)
Registered Squatter Dwellings	0	0	17 (1)	17 (1)
Roads	21 (0)	1 (0)	18 (5)	40 (5)
Transportation Facilities (e.g. railways, tramways, etc.)	0	0	0	0
Pedestrian Pavements/Footways	4 (0)	2 (0)	3 (0)	9 (0)
Minor Footpaths/Access Paths/Access Roads	15 (1)	2 (0)	84 (3)	101 (4)
Construction Sites	0	0	1 (0)	1 (0)
Open Areas	6 (1)	6 (1)	26 (1)	38 (3)
Catchwaters	0	0	8 (1)	8 (1)
Others (e.g. carparks, parks, playgrounds, gardens, backyards, etc.)	2 (0)	2 (0)	25 (0)	29 (0)
Nil	0	1 (0)	7 (0)	8 (0)
Total	51 (2)	14 (1)	194 (11)	259 (14)

Legend:

40 (5) Forty landslides of which five were major failures

Notes: (1) Incidents that were not genuine landslides have been excluded.
(2) A given landslide may affect more than one type of facility.
(3) 'Nil' refers to incidents where the landslide debris came to rest on the slopes, not affecting any facilities.

Table 3.3 Breakdown of Landslide Consequences by Types of Slope Failures

Types of Slope Failures		Number of Squatter Dwellings ⁽¹⁾ Evacuated		Number of Floors, Houses or Flats Evacuated or Partially Closed	Number of Incidents Involving Closure			Deaths	Injuries reported to GEO
		Permanent	Temporary		Roads	Pedestrian Pavements	Footpaths, Alleyways or Private Access Paths		
Fill Slopes		0	0	0	0	0	1	0	0
Cut Slopes	Soil	1(1) ⁽³⁾	1 (1)	0	5	0	12	0	0
	Soil/Rock	0	0	0	0	1	0	0	0
	Rock	0	0	0	1	0	1	0	0
Retaining Walls		0	0	0	0	1	2	0	0
Natural Hillside		0	1 (1)	0	4	0	6	0	0
Registered Disturbed Terrain		0	0	0	0	0	0	0	0
Total		1 (1)	2 (2)	0	10	2	22	0	0

Legend:

1 (1) Number of squatter dwellings evacuated, with the number of tolerated squatter structures evacuated shown in brackets

Notes: (1) A squatter dwelling is defined as a place of residence that contains one or more tolerated squatter structures, i.e. all structures registered in 1982 Housing Department's Squatter Structure Survey (GEO, 2018).

(2) A failure may give rise to more than one type of consequence.

(3) A cut slope failure (Incident No. 2018/09/2304) resulted in permanent evacuation of a squatter dwelling at Pai Tau Village (see Section 4.3 for details).

Table 3.4 Breakdown of Facility Groups Affected by Major Landslides

Types of Major Landslides	Facility Group Affected by Major Landslides (Group No.)						
	1a	1b	2a	2b	3	4	5
All Major Landslides	0	1	0	0	2	7	2
Major Landslides on Man-made Slopes	0	0	0	0	1	2	1
Major Landslides on Registered Disturbed Terrain	0	0	0	0	0	0	0
Major Landslides on Natural Hillside	0	1	0	0	1	5	1

Note: Facility groups are classified in accordance with the GEO Technical Guidance Note No. 15 (GEO, 2007).

Table 3.5 Breakdown of Landslides by Types of Slope Failures

Types of Slope Failures		Number	Percentage (%)
Fill Slopes		14 (2)	5.5
Cut Slopes	Soil	139 (2)	55
	Soil/Rock	15 (0)	5.9
	Rock	16 (0)	6.3
Retaining Walls		9 (0)	3.6
Natural Hillside		56 (8)	22.1
Registered Disturbed Terrain		4 (0)	1.6
Total		253 (12)	100

Legend:

14 (2) Fourteen landslides, two of which were major failures.

Note: Where a landslide involved more than one type of failure, the predominant type of failure has been considered in the above classification.

3.4 Landslide Volume Distribution

Tables 3.6 and 3.7 show the distribution of failure volumes for all the reported landslides. A total of 151 landslides (59.7%) involved less than 5 m³ of material. There were 12 major landslides (with a failure volume of 50 m³ or more), eight of which occurred on natural hillside and the other four occurred on man-made features. The largest two incidents involved landslides developed into three distinct landslide clusters occurring on the natural hillside above Fan Kam Road with an estimated total source volume ranging from 200 m³ to 800 m³. Detailed description of these two incidents is given in Section 4.2.

Table 3.6 Landslide Volume Distribution with Respect to Geographical Locations

Volume of Failure (m ³)	Hong Kong Island	Kowloon	New Territories and Outlying Islands	All
< 5	44	10	97	151 (59.7%)
≥ 5 to < 10	2	1	24	27 (10.7%)
≥ 10 to < 20	0	1	29	30 (11.8%)
≥ 20 to < 50	1	1	31	33 (13%)
≥ 50 to < 200	2	1	6	9 (3.6%)
≥ 200 to < 500	0	0	1	1 (0.4%)
≥ 500 to < 1000	0	0	2	2 (0.8%)
≥ 1000	0	0	0	0 (0%)
Total	49	14	190	253 (100%)

Legend:

27 (10.7%) Twenty-seven landslides, which amount to 10.7% of the total 253 genuine landslides reported to the Government

Table 3.7 Landslide Volume Distribution with Respect to Types of Slope Failures

Volume of Failure (m ³)	Fill Slopes	Cut Slopes			Retaining Walls	Natural Hillside	Registered Disturbed Terrain	Total
		Soil	Soil/Rock	Rock				
<5	3	88	11	15	6	28	0	151 (59.7%)
≥5 to <10	4	15	2	1	1	2	2	27 (10.7%)
≥10 to <20	3	19	0	0	1	6	1	30 (11.8%)
≥20 to <50	2	15	2	0	1	12	1	33 (13%)
≥50 to <200	2	2	0	0	0	5	0	9 (3.6%)
≥200 to <500	0	0	0	0	0	1	0	1 (0.4%)
≥500 to <1000	0	0	0	0	0	2	0	2 (0.8%)
≥1000	0	0	0	0	0	0	0	0 (0%)
Total	14	139	15	16	9	56	4	253 (100%)

Legend:

27 (10.7%) Twenty-seven landslides, which amount to 10.7% of the total 253 genuine landslides reported to the Government

Note: Where a landslide involved more than one type of failure, the predominant type of failure has been considered in the above classification.

4 Notable Landslides

4.1 General

Of the 253 genuine landslides reported to the Government that occurred in 2018, six incidents are described in more detail below. These six incidents have been selected on the basis of their consequences and scales.

4.2 The 29 August 2018 Landslides on the Natural Hillside above Fan Kam Road, Pat Heung (Incident Nos. 2018/08/2228 & 2018/08/2229)

On 29 August 2018 when Red Rainstorm Warning and Landslip Warning were in effect on that day, landslides in three distinct clusters, denoted as 2228, 2229(upper) and 2229(lower) in Figure 4.1, occurred on the natural hillside above Fan Kam Road with total source volume of 550 m³, 800 m³ and 200 m³ respectively. While the landslides initiated as open hillslope failures from multiple source areas within the landslide clusters, debris from landslide clusters 2228 and 2229(upper) converged into drainage lines and turned into channelised debris flows descending towards Fan Kam Road. No casualty was reported, but outwash debris inundated both lanes of Fan Kam Road resulting in closure of a section of the road (Figure 4.2(a)). One of the two traffic lanes was re-opened after four days upon completion of the immediate emergency works. The remaining traffic lane was re-opened in early January 2019 following the completion of additional emergency works which primarily comprised installation of soil nails. The debris impact also led to blockage of a cross-road culvert and pushing downstream and incurring damage on several vehicles and a container (Figure 4.2(b)). A storage structure adjoining a village house adjacent to the debris trail of landslide cluster 2228 was also reported to have been washed away (Figure 4.2(c)). The incidents were widely reported by the media.

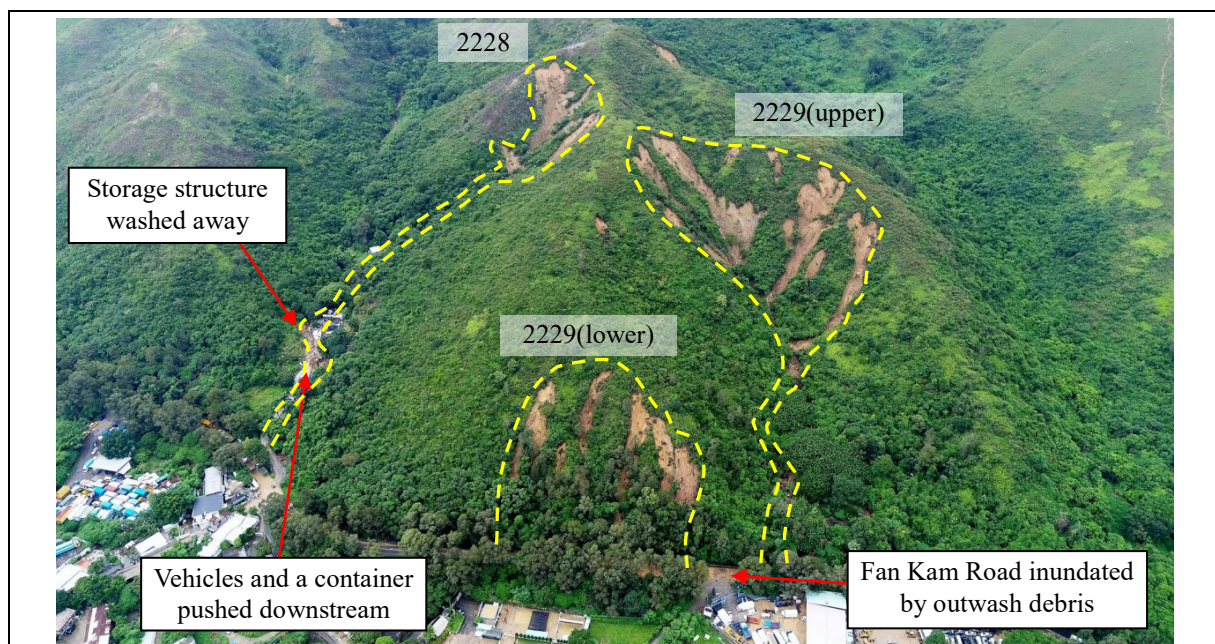


Figure 4.1 General View of the 29 August 2018 Landslides on the Natural Hillside above Fan Kam Road, Pat Heung (Incident Nos. 2018/08/2228 & 2018/08/2229)



(a) A section of Fan Kam Road inundated by outwash debris



(b) Vehicles and a container pushed downstream



(c) Storage structure adjoining a village house reported to have been washed away

Figure 4.2 Views of the 29 August 2018 Landslides on the Natural Hillside above Fan Kam Road, Pat Heung (Incident Nos. 2018/08/2228 & 2018/08/2229)

4.3 The 16 September 2018 Landslide on an Unregistered Cut Slope behind a Squatter Structure at Pai Tau Village, Shatin (Incident No. 2018/09/2304)

At about 1:00 p.m. on 16 September 2018 when Red Rainstorm Warning was in effect followed by Landslip Warning, a landslide occurred on an unregistered soil cut slope below a squatter dwelling at No. 92 Pai Tau Village, Shatin (Figure 4.3). The landslide involved a shallow detachment with an estimated failure volume of 2 m³. The debris, comprising soil and vegetation, was piled up against the squatter without any major damage to the squatter structure. No casualty was reported as a result of the landslide.

According to available records, a Category 2 Non-development Clearance¹ (NDC) to the squatter dwelling at the slope toe was recommended by GEO in 1993. Subsequently, the squatter dwelling was permanently evacuated under a Category 1 NDC² recommended by GEO following the 2018 landslide.

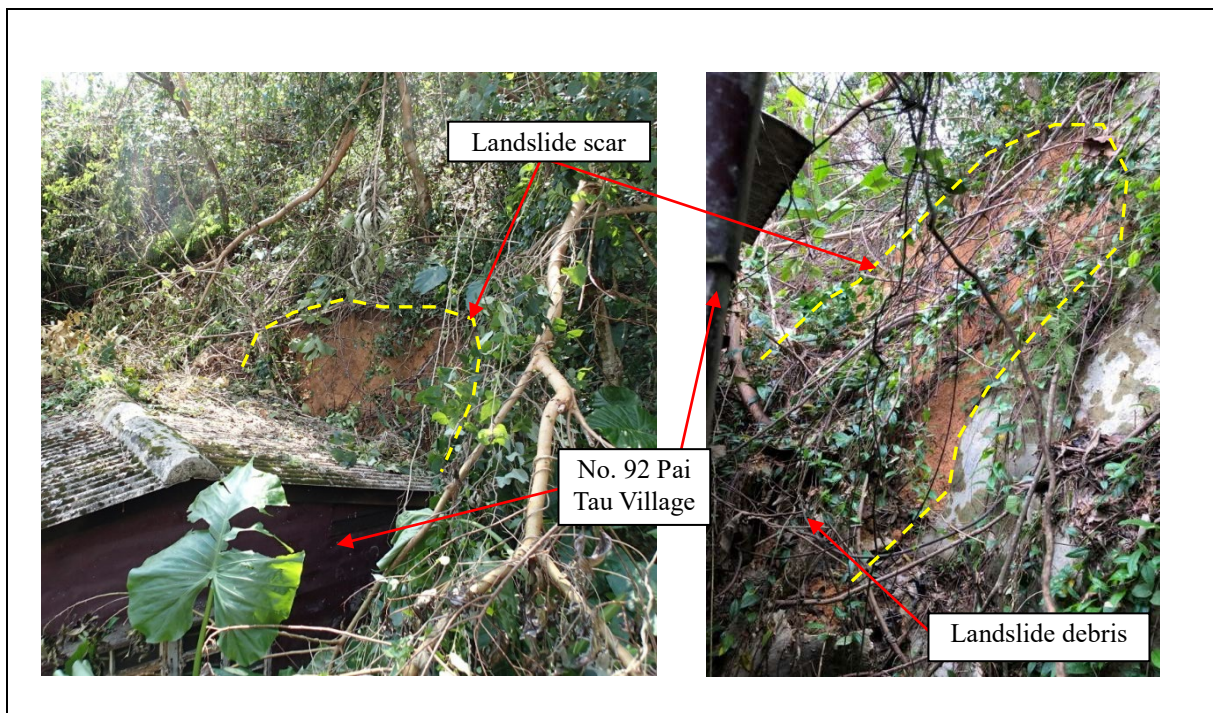


Figure 4.3 Views of the 16 September 2018 Landslide on an Unregistered Cut Slope behind a Squatter Structure at Pai Tau Village, Shatin (Incident No. 2018/09/2304)

¹ Category 2 Non-development Clearance (NDC) recommendations are issued to squatter structures that are considered especially vulnerable to landslides due to their close proximity to potentially unstable slopes; the clearance is through advice and persuasion.

² Category 1 NDC recommendations are issued to squatter structures that are in "immediate and obvious" danger; the clearance is compulsory and will be backed up by force if necessary.

4.4 The 29 August 2018 Landslides on the Natural Hillside at Ta Shek Wu Kiu Tau, Sheung Shui (Incident No. 2018/08/2231)

On 29 August 2018 when Red Rainstorm Warning and Landslip Warning were in effect on that day, three landslides, denoted as Landslides A, B and C in Figure 4.4, occurred on the natural hillside above a cut slope (Feature No. 2SE-D/C349) at Ta Shek Wu Kiu Tau with source volume of 70 m³, 125 m³ and 105 m³ respectively. The landslide debris was largely deposited on an access road at the slope toe and damaged a parked van at the opposite side of the road. While no casualty was reported, the affected section of access road was completely closed for about two weeks.



Figure 4.4 Views of the 29 August 2018 Landslides on the Natural Hillside at Ta Shek Wu Kiu Tau, Sheung Shui (Incident No. 2018/08/2231)

4.5 The 13 February 2018 Rockfall behind Clinical Pathology Building, Queen Mary Hospital (Incident No. 2018/02/2151)

On 13 February 2018, a rockfall incident occurred on the natural hillside above a cut slope (Feature No. 11SW-C/C76) behind the Clinical Pathology Building of Queen Mary Hospital under dry weather (Figure 4.5). The fallen rock blocks, with an estimated volume of 0.001 m^3 , impacted a car parked in the open car park at toe of the slope with most of the rock blocks punched into the car through its rear window. While the car was damaged, no casualty was reported as a result of the incident.

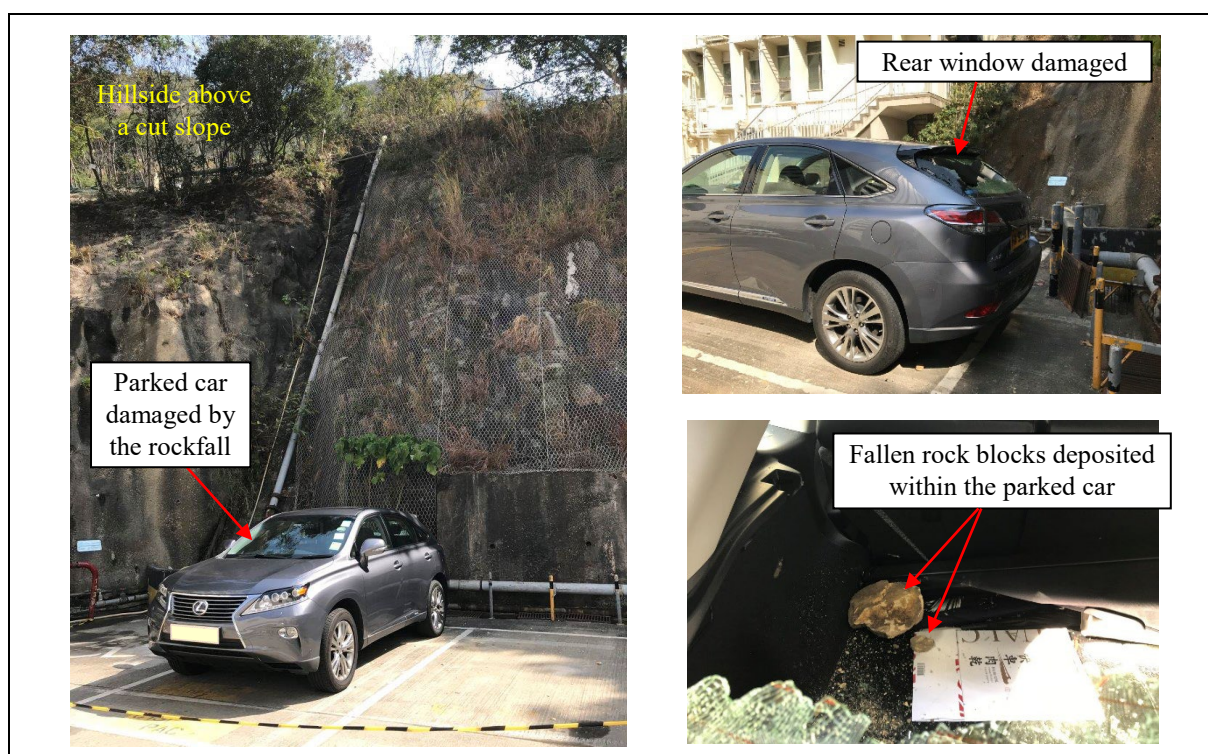


Figure 4.5 Views of the 13 February 2018 Rockfall from the Hillside behind Queen Mary Hospital (Incident No. 2018/02/2151)

4.6 The 19 August 2018 Boulder Fall from the Natural Hillside above Shatin Pass Road, Wong Tai Sin (Incident No. 2018/08/2218)

On 19 August 2018 when Amber Rainstorm Warning was in effect on that day, a boulder fall incident occurred on the natural hillside above a cut slope (Feature No. 11NE-A/C3) at Shatin Pass Road (Figure 4.6). The fallen boulder, with an estimated volume of 0.25 m^3 , impacted a parked van at the slope toe resulting in damage of the door of the van and temporary closure of the affected road section. No casualty was reported as a result of the incident.

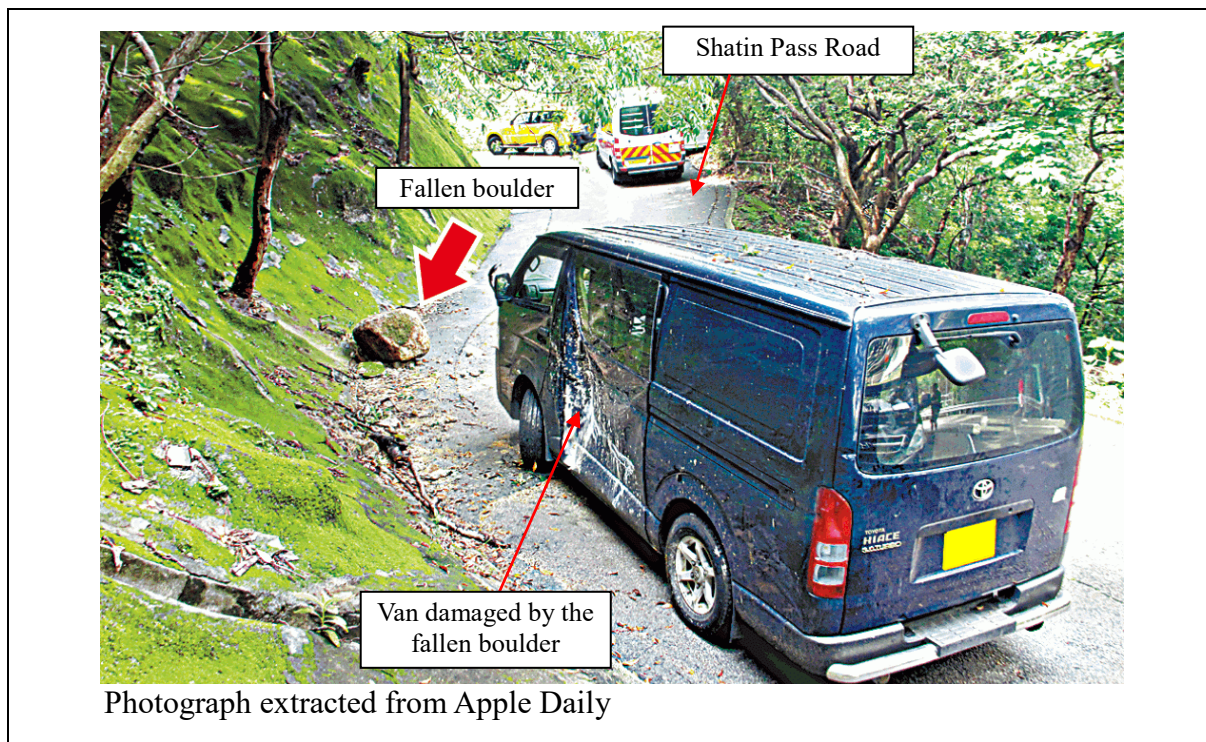


Figure 4.6 View of the 19 August 2018 Boulder Fall from the Natural Hillside above Shatin Pass Road, Wong Tai Sin (Incident No. 2018/08/2218)

5 Conclusion

Rainfall recorded at the HKO's Principal Raingauge at Tsim Sha Tsui amounted to 2162.9 mm in 2018, a deficit of about 10% comparing to the mean annual rainfall of 2398.5 mm between 1981 and 2010. In 2018, three Landslip Warnings were issued on 7 June, 29 August and 16 September 2018. Of the 253 genuine landslides, 12 were major failures, 164 were minor failures and 77 were very minor failures with negligible consequences.

There were 16 landslides in 2018 with notable consequences. Of these landslides, one resulted in damage of a storage structure, a container and several vehicles as well as temporary closure of a road, one led to a permanent evacuation of a squatter dwelling, two led to temporary evacuation of squatter dwellings and three resulted in damage of vehicles. The remaining nine landslides resulted in temporary closure of roads. Other landslides in 2018 primarily affected open areas, footpaths or minor access roads, catchwaters and a construction site without any significant direct or indirect consequence. No injury or fatality was reported as a result of the landslides.

6 References

- GEO (2007). *GEO Technical Guidance Note No. 15 (TGN 15) – Guidelines for Classification of Consequence-to-Life Category for Slope Features*. Geotechnical Engineering Office, Hong Kong, 14 p.
- GEO (2018). *GEO Circular No. 3 – Non Development Clearance (Slope Safety) of Squatters*. Geotechnical Engineering Office, Hong Kong, 19 p.
- Hong Kong Observatory (2019). *The Year's Weather - 2018*. Hong Kong Observatory, Hong Kong, 8 p.

Appendix A

Some Selected Rainfall Parameters for the Three Rainstorms
with Landslip Warnings issued in 2018

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Table A1 Some Selected Rainfall Parameters for the Three Rainstorms with Landslip Warnings issued in 2018

Rainstorm		5-min		10-min		15-min		30-min	
		Max. rainfall (mm)	Raingauge Station	Max. rainfall (mm)	Raingauge Station	Max. rainfall (mm)	Raingauge Station	Max. rainfall (mm)	Raingauge Station
1	6-9 June 2018	13.5	H28, N19	25.5	N19	37	N19	63.5	H28
2	29-30 August 2018	12.5	N45	23	N45	32.5	N41	54.5	N41
3	16-17 September 2018	8.5	H29, N49	15.5	N10	22.5	N10	43.5	N28

Rainstorm		1-hr		2-hr		4-hr		5-hr		6-hr	
		Max. rainfall (mm)	Raingauge Station	Max. rainfall (mm)	Raingauge Station	Max. rainfall (mm)	Raingauge Station	Max. rainfall (mm)	Raingauge Station	Max. rainfall (mm)	Raingauge Station
1	6-9 June 2018	101	N46	139.5	N46	183	N46	189.5	N46	195.5	N46
2	29-30 August 2018	75.5	N31	126.5	N05	218.5	N05	254.5	N05	282	N05
3	16-17 September 2018	64	N07, N37	108.5	N37	171	N19	187	N37	208.5	N19

Rainstorm		8-hr		12-hr		18-hr		24-hr		48-hr	
		Max. rainfall (mm)	Raingauge Station	Max. rainfall (mm)	Raingauge Station	Max. rainfall (mm)	Raingauge Station	Max. rainfall (mm)	Raingauge Station	Max. rainfall (mm)	Raingauge Station
1	6-9 June 2018	203.5	N46	209.5	N46	221	N46	323	N41	428.5	N41
2	29-30 August 2018	301.5	N05	317	N05	365.5	N05	381.5	N05	458.5	N34
3	16-17 September 2018	241.5	N37	270.5	N37	312	N37	343.5	N37	350	N37

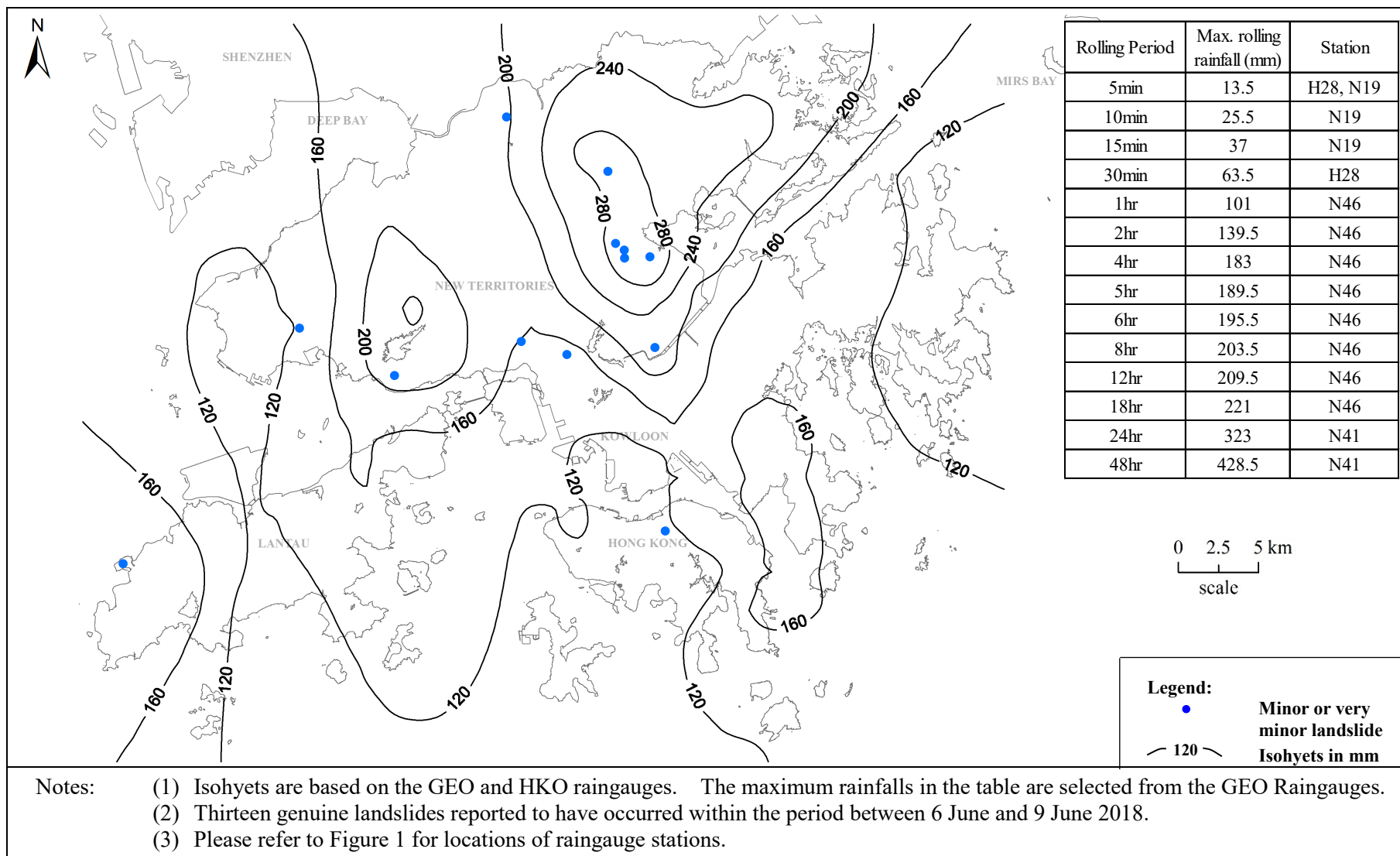


Figure A1 Maximum Rolling 24-hour Rainfall Distribution for the Period between 6 June (00:00) and 9 June 2018 (24:00) and Locations of Landslides

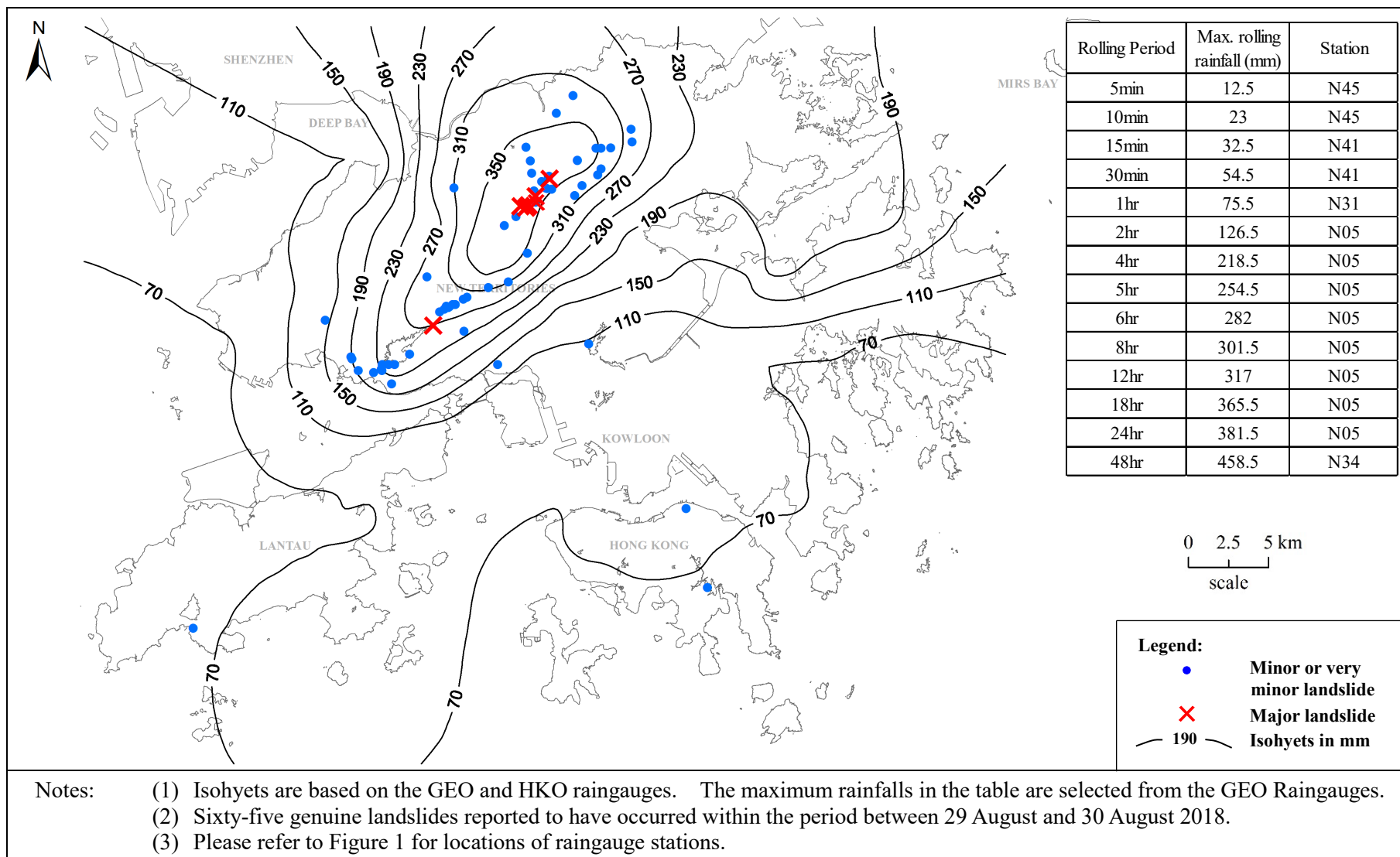


Figure A2 Maximum Rolling 24-hour Rainfall Distribution for the Period between 29 August (00:00) and 30 August 2018 (24:00) and Locations of Landslides

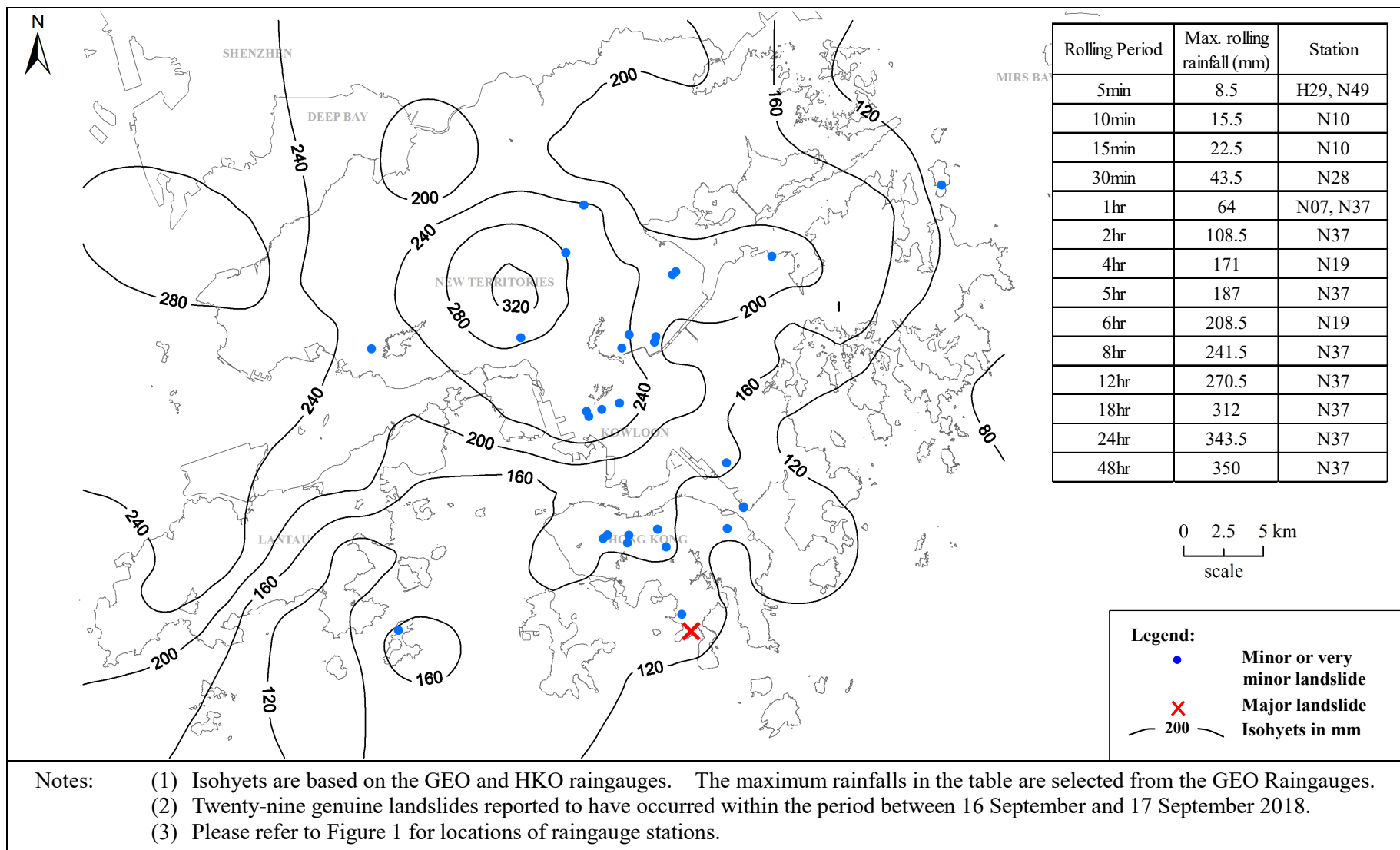


Figure A3 Maximum Rolling 24-hour Rainfall Distribution for the Period between 16 September (00:00) and 17 September 2018 (24:00) and Locations of Landslides

Appendix B

List of Landslide Incidents Reported to the Government

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Table B1 - List of Major Landslide Incidents (Sheet 1 of 2)

Incident No.	Location	Feature Registration No. (if any)	Failure			Facility Affected	Consequence
			Date (Time)	Feature Type	Scale (m ³)		
2018/08/2228	Fan Kam Road (near Ta Shek Wu), Pat Heung	Natural hillside	29/8	Natural hillside	550	Registered squatter dwelling; road	Both lanes of Fan Kam Road temporarily closed; a storage structure washed away; several vehicles and a container damaged
2018/08/2229	Near Lamp Post No. FB3670, Fan Kam Road, Pat Heung	Natural hillside	29/8	Natural hillside	800 (upper) 200 (lower)	Road	Both lanes of Fan Kam Road temporarily closed
2018/08/2231	Above Feature No. 2SE-D/C349, Ta Shek Wu Kiu Tau, Sheung Shui	Natural hillside	29/8	Natural hillside	70 (scar A) 125 (scar B) 105 (scar C)	Access road	A parked van damaged; access road temporarily closed
2018/08/2237	Above Feature No. 3SW-C/C280, Tai Lung Village, Sheung Shui	Natural hillside	29/8	Natural hillside	100	Road	-
2018/08/2239	Near Lamp Post No. BD1139, Fan Kam Road, Sheung Shui	2SE-D/C377	30/8 (03:00)	Soil cut	95	Road	One lane of Fan Kam Road temporarily closed
2018/09/2284	Southeast of House No. 5A, Sam Ka Tsuen, Lei Yue Mun	Natural hillside	1/6	Natural hillside	130	Open area	-
2018/11/2399	Below Block 6 of 30 Cape Road, Chung Hom Kok	Natural hillside	16/9	Natural hillside	80	Minor footpath	-
2019/02/2419	Ta Shek Wu Tsuen, Pat Heung	Natural hillside	29/8	Natural hillside	180	Open area	-
2018/08/1031WS (WSD/2018/8/2/NTW)	Adjoining WSD access road NT31 near Spot Level 93.0, Tai Lam Country Park	6SE-A/C237	Unknown	Soil cut	70	Access road	Access road temporarily closed

Table B1 - List of Major Landslide Incidents (Sheet 2 of 2)

Incident No.	Location	Feature Registration No. (if any)	Failure			Facility Affected	Consequence
			Date (Time)	Feature Type	Scale (m ³)		
2018/09/1047AF (AFCD/2018/09/0002)	Mountain Bike Trail - Ho Pui Section (Section C), Tai Lam	Natural hillside	3/9	Natural hillside	300	Minor footpath; catchwater	Mountain bike trail and catchwater blocked
2018/10/1060WS (WSD/2018/10/5/NTE)	Lai Chi Kok Pumping Station, Lai Chi Kok	11NW-A/F82	Unknown	Fill	190	Road	-
2018/10/1061WS (WSD/2018/10/3/HK&I)	South of Chai Wan Service Reservoir	11SE-D/F 140	Unknown	Fill	80	Open area	-

Note: (1) The bracket denotes the landslide number adopted by the government department concerned, other than the GEO.

Table B2 - List of Landslide Incidents on Hong Kong Island (Sheet 1 of 6)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ²)		
2018/01/2145	Sir Cecil's Ride (150 m south of St. Joan of Arc Secondary School), Braemar Hill Road	2.5 m high cut slope	15/1	Public	Unknown	Soil cut	3	Minor footpath	-
2018/02/2150	Above Feature No. 11SW-C/C681, 48 Mount Kellest Road	Natural hillside	5/2	Public	Unknown	Natural hillside	0.125 (Boulder fall)	Access road	-
2018/02/2151	Near The University of Hong Kong Pathology Building, Queen Mary Hospital	Natural hillside	13/2	Police	13/2	Natural hillside	0.001 (Boulder fall)	Other (open carpark)	Rear window of a parked car broken
2018/02/2152	Above Lugard Road (near No.28 Lugard Road)	Natural hillside	13/2	Public	Unknown	Natural hillside	0.027 (Boulder fall)	Road	-
2018/03/2156	Above Feature No. 11SW-C/C681, 48 Mount Kellest Road	Natural hillside	12/3	Public	12/3 (08:30)	Natural hillside	0.065 (Boulder fall)	Access road	-
2018/04/2160	Sir Cecil's Ride (100 m east of St. Joan of Arc Secondary School), Braemar Hill Road	2 m high cut slope	23/3	DO	Unknown	Soil cut	1.2	Minor Footpath	-
2018/04/2162	East of Marymount Secondary School, Tai Hang Road	11SE-C/C54	25/4	HyD	24/4 (15:00)	Rock cut	0.03 (Rockfall)	Road	-
2018/06/2167	Above Feature No. 11SE-A/C412, Tung Wah Eastern Hospital	Natural hillside	8/6	Police	Unknown	Natural hillside	3	Building	-
2018/06/2175	Southeast of Aberdeen Tunnel Toll Plaza	11SW-D/F208	12/6	Public	11/6	Fill	2	Road; open area	-

Table B2 - List of Landslide Incidents on Hong Kong Island (Sheet 2 of 6)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ²)		
2018/06/2187	Near Feature No. 15NE-A/C693, Cape Road	Natural hillside	20/6	CEDD	Unknown	Natural hillside	2	Pedestrian pavement	-
2018/06/2189	Behind Y Y Mansions, No. 96D Pok Fu Lam Road	11SW-A/C329	25/6	BD	23/6	Rock cut	0.3 (Rockfall)	Open area	-
2018/06/2193	Nos. 27-29 Village Terrace, Happy Valley	11SW-D/C2278	25/6	BD	23/6 (15:00)	Soil/rock cut	0.14 (Rockfall)	Building, open area	-
2018/07/2202	Stanley Gap Road	15NE-A/C241	15/7	HyD	Unknown	Rock cut	0.17 (Rockfall)	Road	One lane of Stanley Gap Road (Southbound) temporarily closed
2018/07/2204	No. 111 Mount Butler Road	1.5 m high cut slope	19/7	HyD	19/7	Rock cut	0.05 (Rockfall)	Road	-
2018/08/2207	Opposite to The Harbour View, Magazine Gap Road	Natural hillside	6/8	HyD	Unknown	Natural hillside	3	Road	-
2018/08/2213	Between Nos. 48 & 52 Mount Kellett Road	11SW-C/C249	13/8	HyD	12/8 (08:00)	Rock cut	1 (Rockfall)	Road	-
2018/08/2216	Below access path from the Chief Justice's House to Gough Hill Road	4 m high fill slope	13/8	Public	Unknown	Fill	28	Minor footpath	-
2018/08/2217	South of No. 96C Pok Fu Lam Road	11SW-A/C329	16/8	BD	13/8	Soil cut	0.045 (Boulder fall)	Road	-

Table B2 - List of Landslide Incidents on Hong Kong Island (Sheet 3 of 6)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Date (Time)	Failure		Facility Affected	Consequence
			Date	By		Feature Type	Scale (m ²)		
2018/08/2219	Between Nos. 11 and 19 Repulse Bay Road	11SE-C/C15	19/8	HyD	19/8	Soil/rock cut	0.1 (Rockfall)	Road	-
2018/08/2221	Wan Chai Gap Road	2 m high cut slope	17/8	HyD	Unknown	Soil cut	0.1	Road	-
2018/08/2223	Bowen Road	11SW-B/CR211	22/8	HyD	unknown	Soil cut	0.2	Road	-
2018/08/2225	Access road to No.28 Barker Road	2 m high cut slope	27/8	HyD	Unknown	Soil/rock cut	0.377 (Boulder fall)	Access road	-
2018/08/2226	510 m northeast of South Island School, Black's Link	11SW-D/C2171	27/8	HyD	Unknown	Soil/rock cut	0.2	Road	-
2018/08/2262	Mount Nicholson Road	2.5 m high cut slope	31/8	HyD	31/8 (01:55)	Rock cut	0.25 (Rockfall)	Road	-
2018/08/2265	No. 8 Kai Yuen Street	11SE-A/C99	30/8	BD	Unknown	Soil cut	0.01	Minor footpath	-
2018/09/2269	Junction of Repulse Bay Road and Headland Road	15NE-A/C240	4/9	HyD	2/9	Rock cut	0.02 (Rockfall)	Road	-
2018/09/2279	Footpath to Shui Choi Tin Village from Victoria Road	Natural hillside	7/9	Public	2/9	Natural hillside	0.15	Minor footpath	-

Table B2 - List of Landslide Incidents on Hong Kong Island (Sheet 4 of 6)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ²)		
2018/09/2285	Northeast of Pine Court, Robinson Road	11SW-B/C65	12/9	BD	Unknown	Soil cut	3.27	Road	-
2018/09/2287	No. 96 Repulse Bay Road	15NE-A/R192	5/9	BD	6/8 (12:38)	Masonry wall	0.75	Open area	-
2018/09/2294	Access road to No. 28 Barker Road	11SW-D/C467	17/9	Police	17/9 (00:00)	Soil cut	2.83	Access road	-
2018/09/2300	Near No. 28 Peak Road	11SW-D/C695	17/9	HyD	Unknown	Soil cut	3	Road	One lane of Peak Road temporarily closed
2018/09/2315	Findlay Road	Natural hillside	19/9	HyD	Unknown	Natural hillside	4 (Boulder fall)	Road	Findlay Road (one lane road) temporarily closed
2018/09/2335	Opposite to Feature No. 11SW-D/FR332, Severn Road	Natural hillside	26/9	Police	Unknown	Natural hillside	3.6 (Boulder fall)	Road	-
2018/09/2337	Opposite to French International School, Price Road	11SE-C/C166	27/9	HyD	17/9	Soil cut	1	Pedestrian pavement	-
2018/10/2351	North of Feature No. 11SW-D/C1944, Blacks Link	Natural hillside	5/10	HyD	Unknown	Natural hillside	0.6 (Rockfall)	Road	-
2018/10/2367	Gough Hill Road (near junction with Peak Road)	11SW-D/C1625	11/10	HyD	Unknown	Rock cut	0.424 (Rockfall)	Access road	Access road temporarily closed

Table B2 - List of Landslide Incidents on Hong Kong Island (Sheet 5 of 6)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ²)		
2018/10/2370	Chi Fu Close, Pok Fu Lam	11SW-C/C778	13/10	HyD	11/10	Rock cut	0.5 (Rockfall)	Pedestrian pavement	-
2018/10/2377	Craigmin Road	Natural hillside	15/10	HyD	Unknown	Natural hillside	3.53 (Boulder fall)	Road	-
2018/11/2396	Hatton Road	< 3 m high cut slope	7/11	HyD	Unknown	Soil cut	0.44 (Boulder fall)	Access road	-
2018/11/2397	Above Feature No. 11SE-B/C99, Salesian School, 16 Chai Wan Road	Natural hillside	9/11	LandsD	16/9	Natural hillside	0.2 (Boulder fall)	Other (playground of Salesian School)	-
2018/11/2399	Below Block 6 of 30 Cape Road, Chung Hom Kok	Natural hillside	7/11	HAD	16/9	Natural hillside	80	Minor footpath	-
2018/12/2404	No. 21 Coombe Road	11SW-D/CR2006	11/12	BD	17/9	Soil cut	1.5	Road	-
2018/12/2405	Below Headland Road	15NE-A/F62	4/12	HyD	16/9	Fill	8	Access road	-
2019/01/2411	Confucius Hall Secondary School, No. 77 Caroline Hill Road	11SW-B/CR398	3/1/19	BD	16/9	Soil cut	2	Building	-
2018/01/1001AF (AFCD/2018/01/0001)	Near Boa Vista, Tai Tam Country Park	Natural hillside	15/1	AFCD	Unknown	Natural hillside	0.5 (Boulder fall)	Minor footpath	-

Table B2 - List of Landslide Incidents on Hong Kong Island (Sheet 6 of 6)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ²)		
2018/08/1045WS (WSD/2018/8/1/ HKI)	Tai Tam Reservoir Road	15NE-A/C211	31/8	WSD	Unknown	Soil/rock cut	0.06 (Rockfall)	Access road	-
2018/09/1051AD (ArchSD/S/2018/ 09/0001)	Chung Hom Kok Road (near Chung Hom Kok Park)	15NE-C/C75	5/9	ArchSD	Unknown	Rock cut	7	Pedestrian pavement	-
2018/10/1061WS (WSD/2018/10/3/ HK&I)	South of Chai Wan Service Reservoir	11SE-D/F140	12/10	WSD	Unknown	Fill	80	Open area	-
2018/12/1064LD (LandsD/2019/01/ 254)	220 m east of Tai Tam Country Park Management Centre	11SE-A/C345	11/12	LandsD	Unknown	Soil cut	2.4	Open area	-

Note: (1) The bracket denotes the landslide number adopted by the government department concerned, other than the GEO.

Table B3 - List of Landslide Incidents in Kowloon (Sheet 1 of 2)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ²)		
2018/02/2149	Sau Mau Ping Police Station, 200 Hong Ning Road, Kwun Tong	11NE-C/C62	3/2	HyD	3/2 (03:00)	Soil/rock cut	0.02	Pedestrian pavement	Pedestrian pavement temporarily closed
2018/06/2182	Near Feature No. 11NW-B/C293, Tai Po Road, Sham Shiu Po	Natural hillside	14/6	Public	Unknown	Natural hillside	2.6	Open area	-
2018/08/2208	122 Argyle Street	11NW-D/C16	09/8	HyD	Unknown	Rock cut	0.005 (Rockfall)	Pedestrian pavement	-
2018/08/2212	Hillside above Lai Chi Kok Reception Centre, Sham Shiu Po	Natural hillside	11/8	CSD	11/8 (11:00)	Natural hillside	4 (Boulder fall)	Other (perimeter fencing)	Steel chain link fences of Lai Chi Kok Reception Centre damaged
2018/08/2218	Near Lamp Post No. AB6033, Shatin Pass Road, Wong Tai Sin	Natural hillside	19/8	FSD	19/8	Natural hillside	0.25 (Boulder fall)	Road	A parked van damaged; Shatin Pass Road (one lane road) temporarily closed
2018/09/2284	Southeast of House No. 5A, Sam Ka Tsuen, Lei Yue Mun	Natural hillside	12/9	FSD	01/6	Natural hillside	130	Open area	-
2018/09/2296	Butterfly Valley Road, Sham Shiu Po	Natural hillside	17/9	ArchSD	17/9 (08:48)	Natural hillside	0.5 (Boulder fall)	Open area	-
2018/09/2299	Man Wo Garden Mansion, 38 Yuuet Wah Street, Kwun Tong	11NE-D/C65	17/9	Police	16/9 (00:00)	Rock cut	0.08 (Rockfall)	Open area	-
2018/09/2302	Between Feature Nos. 11NW-B/F394 and 11NW-B/F395, Tai Wo Ping, Sham Shiu Po	Natural hillside	17/9	Public	17/9 (07:30)	Natural hillside	19	Open area	-

Table B3 - List of Landslide Incidents in Kowloon (Sheet 2 of 2)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ³)		
2018/09/2307	Ma Wan Tsuen, Lei Yue Mun	11SE-B/R215	17/9	Police	16/9	Masonry wall	1	Minor footpath	Minor footpath temporarily closed
2018/09/2313	South of Bamboo Villa, Sham Shui Po	11NW-A/FR371	19/9	BD	17/9	Fill	6	Open area	-
2018/09/2327	Near House No. 1E, Ma Wan Tsuen, Lei Yue Mun	11SE-B/R92	17/9	Public	16/9	Masonry wall	0.6	Other (alleyway)	-
2018/10/2356	North of Monte Carlton, Tai Po Road, Sham Shui Po	Natural hillside	8/10	Public	18/9	Natural hillside	22	Minor footpath	-
2018/10/2359	West of Tai Hang Tung Community Centre, Sham Shui Po	Natural hillside	09/10	Public	02/10	Natural hillside	1.4	Nil	-

Note: (1) The bracket denotes the landslide number adopted by the government department concerned, other than the GEO.

Table B4 - List of Landslide Incidents in the New Territories (Sheet 1 of 20)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ³)		
2018/01/2143	Tsz Tin Tsuen, Tuen Mun	6NW-C/C70	2/1	LandsD	Unknown	Soil cut	0.2	Minor footpath	-
2018/02/2153	Near Lamp Post No. N2424, Clear Water Bay Road, Sai Kung	2.5 m high cut slope	9/2	DLO	Unknown	Soil cut	0.73	Pedestrian pavement	-
2018/03/2155	Lung Mun Road, Tuen Mun	5SE-C/C1	2/3	HyD	Unknown	Soil/rock cut	5 (Rockfall)	Nil	-
2018/04/2159	Pak Shek Wo, Clear Water Bay, Sai Kung	1INE-B/FR137	10/4	FSD	10/4 (08:20)	Masonry wall	12	Pedestrian pavement	Pedestrian pavement temporarily closed
2018/06/2165	Luen Tai Street, Tuen Mun	Natural hillside	7/6	Public	6/6 (16:31)	Natural hillside	5	Nil	-
2018/06/2166	Northwest of House Nos. 1A - 1D, Kau Lung Hang Tsuen, Tai Po	3SW-D/R18	7/6	Public	7/6 (05:26)	Retaining wall	3.4	Minor footpath	Minor footpath temporarily closed
2018/06/2168	Shing Mun Road (near junction with Cheung Shan Estate Road East), Tsuen Wan	1.8 m high cut slope	8/6	Public	8/6 (10:34)	Soil cut	0.5	Road	-
2018/06/2170	Adjoining the east of Ting Wai Monastery, Tai Po	< 3 m high cut slope	8/6	Public	6/6 (18:00)	Soil cut	10	Minor footpath	Minor footpath temporarily closed
2018/06/2171	Behind House No. 397, Tim Liu Village, Shatin	7SW-D/C140	8/6	LandsD	Unknown	Soil cut	1.8	Other (alleyway)	Alleyway temporarily closed

Table B4 - List of Landslide Incidents in the New Territories (Sheet 2 of 20)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ²)		
2018/06/2172	East of Tit Hang, Kwu Tung	2SE-B/C370	9/6	LandsD	Unknown	Soil cut	0.04 (Boulder fall)	Access road	-
2018/06/2173	70 m southeast of Feature No. 12NW-C/C298, Hang Hau Wing Lung Road, Sai Kung	2.5 m high cut slope	12/6	LandsD	11/6	Soil cut	3.5	Road	-
2018/06/2177	Yue Kok Village, Lai Chi Shan, Tai Po	6 m high cut slope	13/6	Public	7/6	Soil cut	45	Open area	-
2018/06/2179	Below Feature No. 7NW-D/C96, San Uk Ka, Tai Po	< 3 m high cut slope	13/6	LandsD	8/6	Soil cut	2	Registered squatter dwelling; minor footpath	-
2018/06/2180	West of House No. 8, Lai Chi Hang Village, Tai Po	7NW-D/C217	13/6	Public	7/6	Soil cut	1.2	Open area	-
2018/06/2181	Near Lamp Post No. VA8386, Tai Lung, Sheung Shui	< 3 m high cut slope	12/6	Public	Unknown	Soil cut	0.5	Minor footpath	-
2018/06/2184	Near Lamp Post No. VD8465, Kwu Tung	< 3 m high retaining wall	15/6	Public	Unknown	Retaining wall	3.5	Other (crest platform outside cottage)	-
2018/06/2185	644 Castle Peak Road, Tsuen Wan	6SE-D/C24	18/6	HyD	18/6	Soil cut	1	Nil	-
2018/06/2188	Near DD 388 Lot 98 RP, Tsing Lung Tau, Tsuen Wan	6SE-C/C533	23/6	FSD	23/6 (12:31)	Soil cut	0.13	Registered squatter dwelling	-

Table B4 - List of Landslide Incidents in the New Territories (Sheet 3 of 20)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ³)		
2018/06/2190	Behind Village Office of Ngau Pei Sha New Village, Shatin	< 3 m high cut slope	25/6	Public	25/6	Soil cut	0.3	Other (alleyway)	-
2018/06/2192	Adjacent to DD 11 Lot 1479, Nam Hang, Tai Po	Natural hillside	26/6	Public	26/6	Natural hillside	3.14	Minor footpath	-
2018/06/2194	Zone: 267, Lin Ma Hang Road, Sha Tau Kok	3NE-A/C108	28/6	HyD	Unknown	Soil cut	2	Road	-
2018/07/2195	Footpath of Lai Chi Wo, Sha Tau Kok	< 3 m high cut slope	26/6	DO	Unknown	Soil cut	5.5	Minor footpath	-
2018/07/2196	Near House No. 54, Shan Tong Village, Tai Po	< 3 m high cut slope	8/7	FSD	5/7 (17:30)	Soil cut	19	Open area	-
2018/07/2197	South of junction of Hong Lok Road and Hong Lok Yuen Fourth Street, Hong Lok Yuen, Tai Po	7NW-B/C57	3/7	Public	Unknown	Soil cut	5.5	Nil	-
2018/07/2199	Wan Tau Kok Lane, Opposite to Mok Sau Tseng Secondary School, Tai Po	2 m high cut slope	15/6	Public	Unknown	Soil cut	0.3	Road	-
2018/07/2200	Sun King Terrace, Sai Kung	< 3 m high retaining wall	13/7	FSD	13/7 (17:00)	Masonry wall	20	Minor footpath	-
2018/07/2201	8 Pak Shek Wo San Tsuen Rd, Clear Water Bay, Sai Kung	11NE-B/C405	14/7	Police	14/7 (15:00)	Soil cut	0.01	Registered squatter dwelling	-

Table B4 - List of Landslide Incidents in the New Territories (Sheet 4 of 20)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ³)		
2018/07/2203	Po Lam Road South, Tseung Kwan O	11NE-D/C571	15/7	HyD	Unknown	Soil cut	0.01	Road	-
2018/07/2205	Behind House 48F, Sha Po Tsai Village, Tai Po	< 3 m high cut slope	9/7	Public	Unknown	Soil cut	2	Other (streamcourse)	-
2018/08/2209	House No. 303, Wo Hop Shek Village, Fanling	3SW-C/CR923	11/8	Police	11/8	Soil cut	2	Registered squatter dwelling	One squatter dwelling temporarily evacuated
2018/08/2210	House No. 139, Kiu Tau Village, Tsuen Wan	Natural hillside	11/8	Police	Unknown	Natural hillside	7	Registered squatter dwelling	One squatter dwelling temporarily evacuated
2018/08/2214	Near Hung Lau, Tuen Mun	2 m high cut slope	14/8	Police	Unknown	Soil cut	1	Road	-
2018/08/2215	Near Feature No. 7SW-B/C535, Pak Tin Village (Area 2), Tai Wai, Shatin	< 3 m high cut slope	14/8	FSD	Unknown	Soil cut	0.32 (Boulder fall)	Minor footpath	-
2018/08/2220	Junction of Mang Kung Wo Road and Hiram's Highway, Sai Kung	7SE-D/C98	20/8	Police	Unknown	Soil cut	10	Road	One lane of Mang Kung Wo Road temporarily closed
2018/08/2222	Behind House No. 2, Tai Mong Tsai Road, Sai Kung	8SW-A/C23	20/8	HyD	20/8 (01:00)	Soil cut	1.8	Village house	-
2018/08/2224	Near Feature No. 7SE-C/C156, Ma On Shan Country Park, Ma On Shan	Natural hillside	21/8	DLO	19/8	Natural hillside	2 (Boulder fall)	Minor footpath	Minor footpath temporarily closed

Table B4 - List of Landslide Incidents in the New Territories (Sheet 5 of 20)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ³)		
2018/08/2228	Fan Kam Road (near Ta Shek Wu), Pat Heung	Natural hillside	29/8	Police	29/8	Natural hillside	550	Registered squatter dwelling; road	Both lanes of Fan Kam Road temporarily closed; a storage structure washed away; several vehicles and a container damaged
2018/08/2229	Near Lamp Post No. FB3670, Fan Kam Road, Pat Heung	Natural hillside	29/8	HyD	29/8	Natural hillside	800 (upper) 200 (lower)	Road	Both lanes of Fan Kam Road temporarily closed
2018/08/2230	Wong Chuk Yuen, Chun Yiu Road, Shek Kong	6NE-B/C72	29/8	HyD	29/8	Soil cut	37	Access road	Access road temporarily closed
2018/08/2231	Above Feature No. 2SE-D/C349, Ta Shek Wu Kiu Tau, Sheung Shui	Natural hillside	29/8	HyD	29/8	Natural hillside	70 (scar A) 125 (scar B) 105 (scar C)	Access road	A parked van damaged; access road temporarily closed
2018/08/2232	Near Lamp Post No. VD5387, access road to Siu Lam Tsuen, Tuen Mun	< 5 m high fill slope	29/8	Public	29/8 (23:00)	Fill	15	Access road	-
2018/08/2234	Shing Mun Road (near Shing Mun Country Park Visitor Centre), Tsuen Wan	7SW-A/CR206	30/8	HyD	29/8	Soil cut	1.3	Access road	-
2018/08/2235	Adjacent to Feature No. 3SW-C/C559, Tai Lung Village, Sheung Shui	3.5 m high cut slope	29/8	Public	29/8	Soil cut	0.5	Road	-
2018/08/2236	Fan Kam Road (near Tsiu Keng Village), Sheung Shui	2SE-D/C338	30/8	Police	30/8	Soil cut	30	Road	One lane of Fan Kam Road temporarily closed

Table B4 - List of Landslide Incidents in the New Territories (Sheet 6 of 20)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ²)		
2018/08/2237	Above Feature No. 3SW-C/C280, Tai Lung Village, Sheung Shui	Natural hillside	30/8	Public	29/8	Natural hillside	100	Road	-
2018/08/2238	Lok Tung Street, Shung Him Tong Village, Fanling	3SW-A/CR235	30/8	HyD	30/8	Soil cut	45	Access road	Access road temporarily closed
2018/08/2239	Near Lamp Post No. BD1139, Fan Kam Road, Sheung Shui	2SE-D/C377	30/8	HyD	30/8 (03:00)	Soil cut	95	Road	One lane of Fan Kam Road temporarily closed
2018/08/2240	No. 402 Shung Him Tong, Fanling	3SW-A/C208	30/8	Police	30/8 (07:33)	Soil cut	41	Minor footpath	-
2018/08/2241	Wu Tip Shan Road (near Fung Ying Seen Koon), Fanling	Natural hillside	30/8	Police	29/8 (19:00)	Natural hillside	18	Minor footpath	Minor footpath temporarily closed
2018/08/2242	Wu Tip Shan Road (near Fung Ying Seen Koon), Fanling	Natural hillside	30/8	Police	29/8 (19:00)	Natural hillside	3.8	Minor footpath	Minor footpath temporarily closed
2018/08/2243	Near Feature No. 2SE-B/C229, Phoenix Garden, Sheung Shui	2SE-B/C229	30/8	HAD	28/8 (13:00)	Soil cut	0.005	Other (open carpark)	-
2018/08/2244	Sung Shan New Village, Yuen Long	6NE-C/C62	30/8	Public	Unknown	Soil cut	0.7	Access road	-
2018/08/2246	Access road to Siu Lam Tsuen, Tuen Mun	6SW-D/C656	30/8	Public	30/8 (23:00)	Soil cut	6	Access road	-

Table B4 - List of Landslide Incidents in the New Territories (Sheet 7 of 20)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ³)		
2018/08/2247	East of House Nos. 73 and 74, Tseng Tau Chung Tsuen, Tuen Mun	< 3 m high cut slope	30/8	Public	30/8	Soil cut	1	Open area	-
2018/08/2248	Near Feature No. 6NE-B/C101, Ha Che Village, Pat Heung	< 3 m high cut slope	30/8	Public	30/8 (11:10)	Soil cut	13	Minor footpath	Minor footpath temporarily closed
2018/08/2251	Lung Shan Temple, Tung Kok Wai, Fanling	3SW-B/CR414	30/8	Public	30/8 (12:36)	Soil cut	12	Access road	-
2018/08/2252	Near House No. 122, Chuk Chai Hang, Ying Pun, Fanling	3SW-C/C587	30/8	Public	30/8 (12:46)	Soil cut	44	Open area	-
2018/08/2253	Near House No. 21A-7, Siu Lam Tsuen, Tuen Mun	< 3 m high cut slope	30/8	Public	30/8 (00:00)	Soil cut	1 (Boulder fall)	Minor footpath	Minor footpath temporarily closed
2018/08/2255	Behind House No. 45E, Sai Wai Tsuen, Yuen Long	2SE-C/CR186	30/8	GEO	30/8 (10:00)	Soil cut	6.7	Other (storage structure)	-
2018/08/2256	Near House No. 302, Wo Hop Shek Village, Fanling	< 3 m high cut slope	30/8	Public	30/8 (14:27)	Soil cut	0.26	Registered squatter dwelling	-
2018/08/2257	Near Feature No. 3SW-C/CR614, Ying Pun, Fanling	3SW-C/F164	30/8	Public	30/8 (14:39)	Fill	9.5	Minor footpath	Minor footpath temporarily closed
2018/08/2259	Natural hillside above Ho Pui Village, Pat Heung	Natural hillside	30/8	Public	29/8 (18:00)	Natural hillside	47	Open area	-

Table B4 - List of Landslide Incidents in the New Territories (Sheet 8 of 20)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ³)		
2018/08/2260	Near Feature No. 3SW-C/CR610, Ying Pun, Fanling	4 m high cut slope	30/8	Public	29/8 (18:00)	Soil cut	3	Other (watermain)	-
2018/08/2261	Above Feature No. 3NW-C/C360, Kong Nga Po, Lo Wu	Natural hillside	30/8	Police	30/8	Natural hillside	13	Construction site	-
2018/08/2263	Near Feature No. 6SW-D/C595, Siu Lam Road, Tuen Mun	2 m high cut slope	30/8	Public	30/8 (00:00)	Soil cut	1	Other (alleyway)	-
2018/08/2264	Lau Shui Heung Road, Fanling	3SW-B/C344	31/8	HyD	Unknown	Soil cut	14	Road	-
2018/09/2266	Fu Tei Au Village, Fu Tei Au Road, Sheung Shui	3SW-A/F71	31/8	LandsD	30/8	Fill	13	Other (alleyway)	-
2018/09/2267	Footpath to Siu Hang Sun Tsuen, Sheung Shui	< 3 m high cut slope	1/9	Police	1/9 (11:00)	Soil cut	0.5	Minor footpath	-
2018/09/2268	Above Feature 2SE-D/C233, Tong Kung Leng, Sheung Shui	Natural hillside	2/9	FSD	30/8	Natural hillside	3	Open area	-
2018/09/2270	Behind Junior Police Call Permanent Activity Centre and Integrated Youth Training Camp, Pat Heung	Natural hillside	5/9	Police	30/8 (03:00)	Natural hillside	32	Other (perimeter fencing)	Steel chain link fences of Junior Police Call Permanent Activity Centre damaged
2018/09/2272	West of No.119 Shung Him Tong, Fanling	2 m high cut slope	4/9	Public	Unknown	Soil cut	0.3	Other (alleyway)	-

Table B4 - List of Landslide Incidents in the New Territories (Sheet 9 of 20)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ³)		
2018/09/2273	East of House No. 4, Siu Lam Tsuen, Tuen Mun	6SW-D/C581	5/9	LandsD	30/8 (00:00)	Soil cut	4	Access road	-
2018/09/2274	Near Lamp Post No. VD7562, Ying Pun, Fanling	5.5 m high cut slope	6/9	Public	30/8	Soil cut	10	Registered squatter dwelling	-
2018/09/2276	Near Licence No. T12763, Hang Tau Village, Sheung Shui	1.5 m high cut slope	3/9	Public	30/8	Soil cut	2.2	Registered squatter dwelling	-
2018/09/2277	Behind House No. 49, Wu Uk Tsuen, Tuen Mun	< 3 m high cut slope	5/9	LandsD	30/8 (00:00)	Soil cut	1	Registered squatter dwelling	-
2018/09/2278	Near Licence No. PM100, North of So Kwun Wat Road, Tuen Mun	< 3 m high retaining wall	6/9	DLO	30/8 (00:00)	Masonry wall	5	Open area	-
2018/09/2280	Near Lamp Post No. VD0028, Fan Kam Road, Sheung Shui	6 m high cut slope	8/9	Public	Unknown	Soil cut	0.8	Minor footpath	-
2018/09/2281	Near No. 239 Ha Wo Che Village, Shatin	< 3 m high cut slope	3/9	DLO	26/8	Soil cut	0.3	Access road	-
2018/09/2282	Near Lamp Post No. VA2151, Tong Kung Leng, Fanling	1.5 m high cut slope	11/9	Public	30/8	Soil cut	1.8	Access road	-
2018/09/2283	Near Licence No. STT964, Tai Lung, Sheung Shui	2.5 m high cut slope	11/9	Public	30/8	Soil cut	13	Village house	-

Table B4 - List of Landslide Incidents in the New Territories (Sheet 10 of 20)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ²)		
2018/09/2286	Near Lamp Post No. BD4034, So Kwun Wat, Tuen Mun	< 3 m high cut slope	12/9	Public	30/8 (00:00)	Soil cut	2	Access road	-
2018/09/2288	Lau Shui Heung, Sha Tau Kok	Natural hillside	12/9	LandsD	30/8	Natural hillside	47	Open area	-
2018/09/2289	Near No.4 Tai Tan, Sai Kung	< 3 m high cut slope	13/9	DO	7/9	Soil cut	1	Open area	-
2018/09/2295	Adjoining WSD access road, Northeast of Lower Shing Mun Reservoir, Shatin	Natural hillside	17/9	Public	16/9	Natural hillside (Boulder fall)	1.8	Access road	-
2018/09/2304	Behind House No. 92, Pai Tau Village, Shatin	< 3 m high cut slope	17/9	Police	16/9 (13:00)	Soil cut	2	Registered squatter dwelling	Category 1 NDC ⁽²⁾ served on a squatter structure
2018/09/2308	Near Feature No. 7SW-B/CR514, Pak Tin Tsuen, Shatin	4 m high cut slope	17/9	Public	16/9	Soil cut	1.5	Minor footpath	-
2018/09/2316	Behind House No. 390, Pai Tau Village, Shatin	7SW-D/C138	20/9	Police	16/9 (00:00)	Soil cut	3	Village house	-
2018/09/2336	Near Kei Lak Tsai, Fanling	Natural hillside	11/9	DO	Unknown	Natural hillside	10	Minor footpath	-
2018/09/2339	Behind House No. 74, Siu Sau Tsuen, Tuen Mun	< 3 m high cut slope	24/9	Public	30/8 (00:00)	Soil cut	1	Other (alleyway)	-

Table B4 - List of Landslide Incidents in the New Territories (Sheet 11 of 20)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ²)		
2018/09/2341	Behind House No. 5, Cho Ma Wu, Tai Po	< 3 m high cut slope	26/9	LandsD	Unknown	Soil cut	1	Registered squatter dwelling	-
2018/10/2347	Man Tak Path, Ng Tung Chai, Tai Po	Natural hillside	26/9	Public	16/9	Natural hillside	32	Minor footpath	Minor footpath temporarily closed
2018/10/2348	Ngau Kwu Leng, Lam Tsuen	7NW-A/C88	26/9	DO	16/9	Soil cut	16	Open area	-
2018/10/2355	So Kwun Wat Tsuen Road, Tuen Mun	6SW_D/C108	5/10	HyD	16/9 (08:00)	Soil cut	2	Access road	-
2018/10/2358	Golden Villa, No. 200 Castle Peak Road, Tsuen Wan	6SE-C/C458	9/10	Public	20/9	Soil cut	7.8	Open area	-
2018/10/2360	Mui Shue Hang Playground, Tai Po	7NW-B/CR625	12/9	HyD	11/9	Soil cut	2	Other (building lot)	-
2018/10/2361	Shek Tong Tsuen, Au Tau, Yuen Long	6NE-A/C52	3/9	DLO	Unknown	Soil cut	5.5	Open area	-
2018/10/2362	Shing Uk Tsuen, Yuen Long	6NW-B/C90	26/9	DLO	Unknown	Soil cut	6.3	Open area	-
2018/10/2363	Tan Kwai Tsuen, Hung Shui Kiu, Yuen Long	< 3 m high cut slope	4/9	Public	Unknown	Soil cut	1	Open area	-

Table B4 - List of Landslide Incidents in the New Territories (Sheet 12 of 20)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ³)		
2018/10/2364	Near Lamp Post No. EC0202, Ying Pun Tsuen, Sheung Shui	2SE-D/C8	5/9	LandsD	Unknown	Soil cut	1.1	Access road	-
2018/10/2365	Near Feature No. 3SW-C/C266, Tai Lung, Sheung Shui	5 m high cut slope	7/9	LandsD	Unknown	Soil cut	9.4	Access road	-
2018/10/2366	Near Lamp Post No. VA5977, Fung Kong, Sheung Shui	2 m high cut slope	27/9	Public	Unknown	Soil cut	0.5	Minor footpath	-
2018/10/2368	Tai Po Road (Tai Po Kau Section), Tai Po	Natural hillside	2/10	Public	16/9	Natural hillside	40	Nil	-
2018/10/2369	Ying Pun, Sheung Shui	3SW-C/FR163	8/10	Public	Unknown	Masonry wall	0.47	Access road	-
2018/10/2372	Below Dragon Fountain, Ma Liu Shui, Shatin	Natural hillside	2/10	Public	16/9	Natural hillside	25	Nil	-
2018/10/2374	Golden Hill Road, Shatin	7SW-C/C674	16/10	HyD	Unknown	Soil cut	3	Access road	One lane of access road temporarily closed
2018/10/2375	West of North East New Territories (NENT) Landfill, Ta Kwu Ling	Natural hillside	21/9	Public	Unknown	Natural hillside	47	Other (private utility service)	-
2018/10/2376	Footpath to Siu Hang Sun Tsuen, Sheung Shui	Natural hillside	8/10	Public	Unknown	Natural hillside	22	Minor footpath	-

Table B4 - List of Landslide Incidents in the New Territories (Sheet 13 of 20)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ³)		
2018/10/2380	Kwun Ping Road, Shatin	7SE-C/C349	19/10	HAD	18/10	Soil cut	2.6	Road	-
2018/10/2383	North of House No.20A Nai Chung, Sai Sha Road, Sai Kung	< 5 m high fill slope	15/10	Public	16/9	Fill	1	Minor footpath; open area	-
2018/11/2387	No. 127, Tong Hang, Fanling	2 m high cut slope	24/10	DLO	Unknown	Soil cut	0.5	Registered squatter dwelling	-
2018/11/2392	Near Lamp Post No. SYP/D/41, Ying Pun, Sheung Shui	< 3 m high cut slope	2/11	DO	Unknown	Soil cut	2.2	Registered squatter dwelling	-
2018/11/2395	Near Lamp Post No. SYP/D/41, Ying Pun, Sheung Shui	< 2.5 m high cut slope	2/11	DO	Unknown	Soil cut	1.2	Minor footpath	-
2018/11/2398	Near Ng Tung River Pumping Station, Fu Tei Au Road, Sheung Shui	3SW-A/C16	17/11	HyD	Unknown	Soil cut	3	Minor footpath	-
2018/12/2407	Near Lamp Post No. AF0650, Shatin Pass Road, Shatin	11NE-A/C281	24/12	HyD	23/12	Rock cut	0.05 (Rockfall)	Road	-
2019/02/2419	Ta Shek Wu Tsuen, Pat Heung	Natural hillside	13/2/19	Police	29/8	Natural hillside	180	Open area	-
2019/02/2420	Behind House No. 9, Sheung Wai, Tap Mun	< 3 m high cut slope	14/2/19	Police	16/9	Soil cut	2	Other (alleyway)	-

Table B4 - List of Landslide Incidents in the New Territories (Sheet 14 of 20)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ³)		
2018/03/1003WS (WSD/2018/3/1/ NTW)	Adjoining the north of Tsuen Wan Fresh Water Service Reservoir, Tsuen Wan	7SW-C/F523	1/3	WSD	Unknown	Fill	4.8	Access road	-
2018/04/1004WS (WSD/2018/4/1/ NTW)	Adjoining WSD access road NT41 near Spot Level 194, Jubilee Reservoir, Tsuen Wan	7SW-C/C837	7/4	WSD	Unknown	Soil cut	20	Access road	-
2018/05/1005AF (AFCD/2018/05/ 0001)	Chuen Lung Forest Track, Chuen Lung, Tsuen Wan	7SW-A/C237	17/5	AFCD	Unknown	Soil/rock cut	2	Minor footpath	-
2018/05/1006WS (WSD/2018/5/1/ NTW)	Southeast of Ha Lo Wai Service Reservoir, Kwai Chung	7SW-C/DT30	23/5	WSD	Unknown	Disturbed terrain	6	Nil	-
2018/06/1007AD (ArchSD/F/2018/ 06/0001)	Wo Hop Shek Cemetery, Fanling	3SW-C/C84	19/6	ArchSD	19/6	Soil cut	3	Open area	-
2018/06/1008AD (ArchSD/F/2018/0 6/0002)	Wo Hop Shek Cemetery, Fanling	3SW-C/C336	13/6	ArchSD	13/6	Soil cut	0.5	Open area	-
2018/06/1009AD (ArchSD/F/2018/ 06/0003)	Wo Hop Shek Cemetery, Fanling	3SW-C/C340	27/6	ArchSD	27/6	Soil cut	9	Open area	-
2018/06/1010LD (LandsD/2018/06/ 0116)	Tso Kung Tam, Tsuen Wan	6SE-B/CR382	7/6	LandsD	7/6 (22:00)	Soil cut	2	Registered squatter dwelling	-
2018/06/1011LD (LandsD/2018/06/ 0118)	Yeung Tsing Road, Tuen Mun	5SE-B/C170	7/6	LandsD	7/6	Soil cut	3.75	Open area	-

Table B4 - List of Landslide Incidents in the New Territories (Sheet 15 of 20)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ³)		
2018/07/1012AF (AFCD/2018/07/0001)	Shing Mun Forest Track - Lead Mine Pass Section, Shing Mun Country Park	Natural hillside	10/7	AFCD	5/7	Natural hillside	35	Access road	-
2018/07/1013AF (AFCD/2018/07/0002)	Tai Po Kau Forest Track - Kau Lead Section, Tai Po	7NW-D/C251	26/7	AFCD	15/7	Soil cut	10	Access road	-
2018/07/1014AF (AFCD/2018/07/0003)	Tai Po Kau Forest Track - Kau Lead Section, Tai Po	7NW-D/C47	26/7	AFCD	15/7	Soil cut	30	Access road	-
2018/08/1015AF (AFCD/2018/08/0001)	Tai Lam Forest Track - Tin Fu Tsai Section, Tai Lam Country Park	6SE-A/C261	10/9	AFCD	30/8	Soil cut	10	Access road	-
2018/08/1016AF (AFCD/2018/08/0002)	Tai Lam Forest Track - Tai Long Section, Tai Lam Country Park	6SW-B/C241	10/9	AFCD	31/8	Soil cut	25	Minor footpath	-
2018/08/1017AD (ArchSD/YL/2018/08/0001)	Near Ying Pun RTHK TV Transmitting Station, Yuen Long	2SE-D/C39	22/8	ArchSD	22/8	Soil cut	1	Access road	-
2018/08/1018AD (ArchSD/YL/2018/08/0002)	Near Ying Pun RTHK TV Transmitting Station, Yuen Long	2SE-D/C40	22/8	ArchSD	22/8	Soil/rock cut	8	Access road	-
2018/08/1019AD (ArchSD/YL/2018/08/0003)	Near Ying Pun RTHK TV Transmitting Station, Yuen Long	2SE-D/C18	22/8	ArchSD	22/8	Soil/rock cut	4	Access road	-
2018/08/1020AD (ArchSD/TM/2018/08/0001)	Tai Lam Centre for Women, 110 Tai Lam Chung Road, Tai Lam Chung	6SW-D/FR289	30/8	ArchSD	30/8	Fill	6	Other (open carpark)	-

Table B4 - List of Landslide Incidents in the New Territories (Sheet 16 of 20)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ²)		
2018/08/1021AD (ArchSD/F/2018/ 08/0001)	Wo Hop Shek Cemetery, Fanling	3SW-C/DT84	31/8	ArchSD	31/8	Disturbed terrain	20	Other (cemetery)	-
2018/08/1022AD (ArchSD/F/2018/ 08/0002)	Wo Hop Shek Cemetery, Fanling	3SW-C/DT78	31/8	ArchSD	31/8	Disturbed terrain	12	Other (cemetery)	-
2018/08/1023AD (ArchSD/F/2018/ 08/0003)	Wo Hop Shek Cemetery, Fanling	3SW-C/C781	31/8	ArchSD	31/8	Soil cut	10	Other (cemetery)	-
2018/08/1024AD (ArchSD/F/2018/ 08/0004)	Wo Hop Shek Cemetery, Fanling	3SW-C/C412	30/8	ArchSD	30/8	Soil cut	2.5	Pedestrian pavement	-
2018/08/1025AD (ArchSD/F/2018/ 08/0005)	Wo Hop Shek Cemetery, Fanling	3SW-C/CR779	30/8	ArchSD	30/8	Soil cut	15	Access road	-
2018/08/1026AD (ArchSD/F/2018/ 08/0006)	Wo Hop Shek Cemetery, Fanling	3SW-C/C667	31/8	ArchSD	31/8	Soil cut	4	Other (cemetery)	-
2018/08/1027AD (ArchSD/F/2018/ 08/0007)	Wo Hop Shek Cemetery, Fanling	Natural hillside	30/8	ArchSD	30/8	Natural hillside	20	Other (cemetery)	-
2018/08/1028AD (ArchSD/F/2018/ 08/0008)	Wo Hop Shek Cemetery, Fanling	3SW-C/C342	31/8	ArchSD	31/8	Soil cut	1.6	Access road	Access road temporarily closed
2018/08/1029LD (LandsD/2018/10/ 0197)	Footpath from Sai Wan Pavilion to Sai Wan Village, Sai Kung	8SE-A/C94	3/10	LandsD	Unknown	Soil/rock cut	1	Access road	-

Table B4 - List of Landslide Incidents in the New Territories (Sheet 17 of 20)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ³)		
2018/08/1031WS (WSD/2018/8/2/ NTW)	Adjoining WSD access road NT31 near Spot Level 93.0, Tai Lam Country Park	6SE-A/C237	30/8	WSD	Unknown	Soil cut	70	Access road	Access road temporarily closed
2018/08/1032WS (WSD/2018/8/3/ NTW)	Adjoining WSD access road NT31, Tai Lam Country Park	6NE-C/C247	30/8	WSD	Unknown	Soil cut	42	Access road	Access road temporarily closed
2018/08/1033WS (WSD/2018/8/4/ NTW)	Adjoining WSD access road NT31, 40 m north of Tsing Tam Reservoir, Tai Lam Country Park	6NE-D/C269	30/8	WSD	Unknown	Soil cut	32	Access road	Access road temporarily closed
2018/08/1034WS (WSD/2018/8/5/ NTW)	Adjoining WSD access road NT31, Tai Lam Country Park	6SW-D/C472	30/8	WSD	Unknown	Soil/rock cut	1.8	Access road	-
2018/08/1035WS (WSD/2018/8/6/ NTW)	Adjoining WSD access road NT31 near Spot Level 81.6, Tai Lam Country Park	6SE-A/C98	30/8	WSD	Unknown	Soil cut	6	Access road	-
2018/08/1036WS (WSD/2018/8/7/ NTW)	Adjoining WSD access road NT31 near Spot Levels 96.3, 98.6 & 101.3, Tai Lam Country Park	6SW-D/C606	30/8	WSD	Unknown	Soil cut	7.5	Access road	-
2018/08/1037WS (WSD/2018/8/8/ NTW)	Adjoining WSD access road NT31, 350 m west of Tsing Tam Reservoir, Tai Lam Country Park	6NE-D/C277	30/8	WSD	Unknown	Soil cut	7.5	Access road	Access road temporarily closed
2018/08/1038WS (WSD/2018/8/9/ NTW)	Adjoining WSD access road NT31 near Spot Level 88.1, Tai Lam Country Park	6SE-A/C180	30/8	WSD	Unknown	Soil cut	7.5	Access road	Access road temporarily closed
2018/08/1039WS (WSD/2018/8/10/ NTW)	Tai Lam Chung Catchwater (Section E, CH0040 - CH0065), Tai Lam Country Park	6SE-A/CR192	30/8	WSD	Unknown	Soil/rock cut	44	Catchwater	Catchwater blocked

Table B4 - List of Landslide Incidents in the New Territories (Sheet 18 of 20)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ²)		
2018/08/1040WS (WSD/2018/8/12/ NTW)	Tai Lam Chung Catchwater (Section A, CH0540 - CH0575), Tai Lam Country Park	6SE-A/C132	30/8	WSD	Unknown	Soil cut	45	Catchwater	-
2018/08/1041WS (WSD/2018/8/13/ NTW)	Tai Lam Chung Catchwater (Section A, CH0190 - CH0257), Tai Lam Country Park	6SE-A/CR213	30/8	WSD	Unknown	Soil cut	30	Catchwater	-
2018/08/1042WS (WSD/2018/8/14/ NTW)	Tai Lam Chung Catchwater (Section A, CH0685 - CH0770), Tai Lam Country Park	6SE-A/C130	30/8	WSD	Unknown	Soil/rock cut	20	Catchwater	Catchwater blocked
2018/08/1043WS (WSD/2018/8/15/ NTW)	Tai Lam Chung Catchwater (Section A, CH0075 - CH0190), Tai Lam Country Park	6SE-A/CR187	30/8	WSD	Unknown	Soil cut	10	Catchwater	Catchwater blocked
2018/08/1044WS (WSD/2018/8/16/ NTW)	Tai Lam Chung Catchwater (Section C, CH.4650), Tai Lam Country Park	6NE-D/CR275	30/8	WSD	Unknown	Soil cut	24	Catchwater	-
2018/09/1046AF (AFCD/2018/09/ 0001)	Mountain Bike Trail - Ho Pui Section (Section C), Tai Lam	Natural hillside	10/9	AFCD	3/9	Natural hillside	30	Minor footpath	-
2018/09/1047AF (AFCD/2018/09/ 0002)	Mountain Bike Trail - Ho Pui Section (Section C), Tai Lam	Natural hillside	10/9	AFCD	3/9	Natural hillside	300	Minor footpath; catchwater	Mountain bike trail and catchwater blocked
2018/09/1048AF (AFCD/2018/09/ 0003)	Shing Mun Jogging Trail, Shing Mun Country Park	Natural hillside	5/10	AFCD	26/9	Natural hillside	15	Access road	-
2018/09/1049AD (ArchSD/F/2018/ 08/0009)	Wo Hop Shek Cemetery, Fanling	3SW-C/C792	1/9	ArchSD	1/9	Soil cut	4	Other (cemetery)	-

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Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ³)		
2018/09/1050AD (ArchSD/2018/09/0001)	Wo Hop Shek Cemetery, Fanling	Natural hillside	21/9	ArchSD	21/9	Natural hillside	1.7	Access road	-
2018/09/1052HY (HyD/NTW/2018/09/0018)	Cheung Hang Road, Kwai Chung	11NW-A/C110	9/10	HyD	17/9 (00:15)	Soil cut	1.5	Access road	-
2018/09/1054LD (LandsD/2018/10/0202)	About 400 m from Tso Kung Tam Outdoor Recreation Centre, Tsuen Wan	6SE-B/CR382	18/9	LandsD	Unknown	Soil cut	5	Registered squatter dwelling	-
2018/09/1056WS (WSD/2018/8/17/NTW)	Adjoining WSD access road NT22 near Spot Level 44.9, Tai Lam Country Park	6SW-B/C250	7/9	WSD	Unknown	Soil cut	19	Access road	-
2018/10/1057AF (AFCD/2018/10/0001)	Tai Lung Experimental Farm, Fan Kam Road, Sheung Shui	< 3 m high cut slope	16/10	AFCD	16/10	Soil cut	0.5	Open area	-
2018/10/1058WS (WSD/2018/10/1/NTE)	Adjoining WSD access road, Northeast of Lower Shing Mun Reservoir, Shatin	< 3 m high cut slope	8/10	WSD	Unknown	Rock cut	1.5 (Rockfall)	Access road	-
2018/10/1059WS (WSD/2018/10/4/NTW)	Tai Lam Chung Catchwater (Section O, CH8790 - CH8825), Tai Lam Country Park	6SE-B/CR219	12/10	WSD	Unknown	Soil cut	3.6	Catchwater	-
2018/10/1060WS (WSD/2018/10/5/NTE)	Lai Chi Kok Pumping Station, Lai Chi Kok	11NW-A/F82	29/10	WSD	Unknown	Fill	190	Road	-
2018/11/1062LD (LandsD/2018/12/0249)	Kan Lung Village, Sheung Shui	2SE-D/C109	14/11	LandsD	14/11	Soil cut	10	Other (non-crowded built-up facilities)	-

Table B4 - List of Landslide Incidents in the New Territories (Sheet 20 of 20)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ³)		
2018/11/1063WS (WSD/2018/11/2/ NTW)	Adjoining WSD access road NT22, Tai Lam Country Park	6SW-B/C260	30/11	WSD	Unknown	Soil cut	1.8	Access road	-
2018/12/1065WS (WSD/2018/12/1/ NTW)	Tai Lam Chung Catchwater (Section C), 350m Northeast of Ma Pau Ling, Tai Lam Country Park	6NE-D/C101	3/12	WSD	Unknown	Soil cut	18	Access road	-
2018/12/1066WS (WSD/2018/12/2/ NTW)	Adjoining WSD access road NT22 near Spot Level 200.5, Tai Lam Country Park	6SW-B/C119	3/12	WSD	Unknown	Soil cut	12	Access road	-

Notes:

- (1) The bracket denotes the landslide number adopted by the government department concerned, other than the GEO.
- (2) Category 1 Non-development Clearance (NDC) recommendation is issued to a squatter structure that is in 'immediate and obvious' danger; the clearance is compulsory and will be backed up by force if necessary.

Table B5 - List of Landslide Incidents on Outlying Islands (Sheet 1 of 2)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ³)		
2018/01/2144	Wang Pui Road, Lantau Island	13NW-B/C20	8/1	Police	Unknown	Soil cut	0.03	Access road	-
2018/01/2146	Near Salesian Retreat House, Don Bosco Road, Cheung Chau	Natural hillside	12/1	Public	Unknown	Natural hillside	2 (Boulder fall)	Minor footpath	-
2018/03/2157	40 m northwest of Yung Shue Wan Main Street Playground, Lamma Island	Natural hillside	5/3	Public	Unknown	Natural hillside	0.5 (Boulder fall)	Minor footpath	-
2018/04/2161	Near the public toilet at Shap Long San Tsuen, Lantau Island	Natural hillside	18/4	DO	17/4 (00:00)	Natural hillside	12	Minor footpath	-
2018/06/2174	Hong Kong Shaolin Wushu Culture Centre, Tai O, Lantau Island	9SW-C/C5	11/6	BD	9/6 (16:00)	Soil cut	1.6	Building	-
2018/06/2183	Behind House No. 59, Po Wah Yuen, Lamma Island	14NE-B/CR239	13/6	Public	13/6 (17:00)	Soil cut	5	Village house	-
2018/06/2191	Behind House No. 26, Tai Shan East Village, Lamma Island	< 3 m high cut slope	25/6	Public	13/6 (12:00)	Soil cut	0.1	Other (backyard)	-
2018/07/2206	20m southwest to the temple, Luk Chau Village, Lamma Island	15NW-A/CR96	23/7	Public	23/7 (00:00)	Rock cut	0.5 (Rockfall)	Registered squatter dwelling	-
2018/08/2254	Northwest of the Tung Wan Mok Law Shui Wah School, Shek Pik, Lantau Island	13NE-A/C170	30/8	DLO	29/8 (15:00)	Rock cut	0.6 (Rockfall)	Access road	-

Table B5 - List of Landslide Incidents on Outlying Islands (Sheet 2 of 2)

Incident No. ⁽¹⁾	Location	Feature Registration No. (if any)	Reported		Failure			Facility Affected	Consequence
			Date	By	Date (Time)	Feature Type	Scale (m ³)		
2018/09/2271	Near Lamp Post No. 39181, Yung Shue Wan, Lamma Island	1 m high cut slope	2/9	Public	2/9	Soil cut	1.5	Minor footpath	-
2018/09/2309	West of Cheung Chau Pumping Station, Cheung Kwai Road, Cheung Chau	14NW-D/C304	18/9	Public	Unknown	Soil cut	34	Road	Cheung Kwai Road (one lane road) temporarily closed
2018/10/2350	DD 316 Lot 2309, Pui O, Lantau Island	2.2 m high fill slope	27/9	BD	Unknown	Fill	18	Open area	-
2018/12/2403	South Lantau Road (near Cheung Sha Beach), Lantau	13NE-B/DT1	7/12	HyD	Unknown	Disturbed terrain	8	Other (Upper Cheung Sha beach)	-
2018/03/1002LD (LandsD/2018/03/0112)	East of Shek Li, Lamma Island	14NE-B/CR64	16/3	LandsD	Unknown	Soil cut	10	Open area	-
2018/08/1030LD (LandsD/2018/08/0139)	No. 40 South Lantau Road, Lantau	13NE-B/C30	20/8	LandsD	20/8	Soil/rock cut	0.08 (Rockfall)	Open area	-
2018/09/1053HY (HyD/NT/IS/2018-05)	Cheung Kwai Road, (near Feature No. 14NW-D/C304), Cheung Chau	Natural hillside	18/9	HyD	18/9	Natural hillside	3	Access road	-
2018/09/1055LD (LandsD/2018/10/0204)	Nim Shue Wan, Lantau	10SW-B/FR80	26/9	LandsD	Unknown	Fill	30	Open area	-

Note: (1) The bracket denotes the landslide number adopted by the government department concerned, other than the GEO.

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