

3.6 超強颱風玉兔 (1826)：二零一八年十月二十一日至十一月二日

玉兔是二零一八年第六個影響香港的熱帶氣旋。玉兔吹襲香港期間，天文台需要發出三號強風信號，是自一九九三年艾拉以來再次在 11 月發出三號信號。

熱帶低氣壓玉兔於十月二十一日下午在關島之東南偏東約 1 620 公里的北太平洋西部上形成，大致向西北方向移動並迅速增強。玉兔於十月二十四日增強為超強颱風並達到其最高強度，中心附近最高持續風速估計為每小時 250 公里。玉兔於十月二十六日及二十七日轉向西至西南偏西移動及開始逐漸減弱，十月三十日橫過呂宋後進入南海中部並減弱為颱風。玉兔於翌日進一步減弱為強烈熱帶風暴並轉向西北移動，橫過南海東北部。玉兔於十一月一日向偏北方向緩慢移動，晚上減弱為熱帶風暴。受華南乾燥東北季候風影響，翌日玉兔進一步減弱為熱帶低氣壓並在南海東北部徘徊，最後於晚上減弱為低壓區。

根據報章報導，玉兔吹襲塞班島期間造成至少兩人死亡及 133 人受傷，多處地方停電。玉兔為菲律賓北部帶來狂風暴雨並引發山泥傾瀉及水浸，造成最少 20 人死亡。

香港天文台在十月三十一日上午 8 時 40 分發出一號戒備信號，當時玉兔集結在香港之東南約 670 公里。當日本港普遍吹和緩至清勁北風，離岸及高地間中吹強風。隨著玉兔靠近廣東東部沿海地區，天文台在十一月一日下午 12 時 40 分發出三號強風信號，當時玉兔位於香港之東南約 370 公里。在東北季候風及玉兔的共同影響下，本港普遍吹和緩至清勁北風，離岸及高地吹強風。天文台總部於十一月一日下午 3 時 38 分錄得最低瞬時海平面氣壓 1010.5 百帕斯卡，當時玉兔位於本港之東南約 340 公里。隨著玉兔的環流受乾燥氣流入侵而明顯減弱，本港風勢逐漸緩和，天文台在十一月二日上午 2 時 10 分以一號戒備信號取代三號強風信號，並於當日上午 8 時 10 分取消所有熱帶氣旋警告信號。玉兔於十一月二日上午 11 時左右最接近香港，其中心位於本港之東南約 270 公里。

玉兔影響香港期間，大廟灣錄得最高潮位(海圖基準面以上) 2.78 米及最大風暴潮(天文潮高度以上) 0.65 米。

受東北季候風影響，十月三十一日本港部分時間有陽光，天氣非常乾燥，相對濕度普遍維持在百分之四十以下。隨著玉兔靠近，十一月一日及二日本港雲量較多，早晚有微雨。

玉兔吹襲香港期間並沒有造成嚴重破壞。十月三十一日下午一名市民在石澳滑浪期間不幸遇溺身亡。

表 3.6.1 - 3.6.4 分別是玉兔影響香港期間各站錄得的最高風速、持續風力達到強風程度的時段、香港的日雨量及最高潮位資料。圖 3.6.1 為玉兔的路徑圖。圖 3.6.2 - 3.6.3 分別為玉兔的衛星及雷達圖像。

3.6 Super Typhoon Yutu (1826): 21 October – 2 November 2018

Yutu was the sixth tropical cyclone affecting Hong Kong in 2018 and, after Ira in 1993, necessitated the issuance of the No. 3 Strong Wind Signal in November again.

Yutu formed as a tropical depression over the western North Pacific about 1 620 km east-southeast of Guam on the afternoon of 21 October. Tracking generally northwestwards, it intensified rapidly. Yutu developed into a super typhoon on 24 October, reaching its peak intensity the next day with an estimated maximum sustained wind of 250 km/h near its centre. Yutu turned to move west to west-southwestwards on 26 and 27 October and started to weaken gradually. After moving across Luzon on 30 October, Yutu entered the central part of the South China Sea and weakened into a typhoon. Yutu further weakened into a severe tropical storm on the next day and turned to move northwestwards across the northeastern part of the South China Sea. Yutu drifted northwards slowly on 1 November and weakened into a tropical storm that night. Under the influence of the dry northeast monsoon over southern China, Yutu further weakened into a tropical depression the next day and lingered over the northeastern part of the South China Sea. It finally weakened into an area of low pressure at night.

According to press reports, Yutu left at least 2 deaths and 133 injured during its passage to Saipan. Electricity supply for many places was interrupted. The torrential rain and squalls brought by Yutu caused landslides and flooding in the northern part of the Philippines, killing at least 20 people.

In Hong Kong, the No. 1 Standby Signal was issued at 8:40 a.m. on 31 October when Yutu was about 670 km southeast of the territory. Local winds were moderate to fresh northerlies, occasionally strong offshore and on high ground. As Yutu edged closer to the coastal waters of eastern Guangdong, the No. 3 Strong Wind Signal was issued at 12:40 p.m. on 1 November when it was about 370 km southeast of Hong Kong. Under the combine effect of the northeast monsoon and Yutu, local winds were moderate to fresh northerlies, strong offshore and on high ground. The lowest instantaneous mean sea-level pressure of 1010.5 hPa was recorded at the Observatory headquarters at 3:38 p.m. on 1 November when Yutu was about 340 km southeast of Hong Kong. As Yutu's circulation weakened significantly due to dry air intrusion, local winds subsided gradually and the No. 3 Strong Wind Signal was replaced by the No. 1 Standby Signal at 2:10 a.m. on 2 November. All tropical cyclone warning signals were cancelled at 8:10 a.m. on that day. Yutu came closest to the territory at around 11 a.m. on 2 November as it skirted past about 270 km southeast of Hong Kong.

During the passage of Yutu, a maximum sea level (above chart datum) of 2.78 m and a maximum storm surge (above astronomical tide) of 0.65 m were recorded at Tai Miu Wan.

Under the influence of the northeast monsoon, there were sunny periods on 31 October in Hong Kong. It was also very dry with the relative humidity generally staying below 40 per cent on that day. With the approach of Yutu, the weather became cloudier in Hong Kong on 1 and 2 November. There were also light rain patches in the morning and at night.

Yutu did not cause any significant damage in Hong Kong. A person was tragically drowned while surfing in Shek O on the afternoon of 31 October.

Information on the maximum wind, periods of strong force winds, daily rainfall and maximum sea level reached in Hong Kong during the passage of Yutu is given in Tables 3.6.1 - 3.6.4 respectively. Figure 3.6.1 shows the track of Yutu. Figures 3.6.2 - 3.6.3 show respectively satellite imageries and a radar imagery of Yutu.

表 3.6.1 在玉兔影響下，本港各站在熱帶氣旋警告信號生效時所錄得的最高陣風、最高每小時平均風速及風向

Table 3.6.1 Maximum gust peak speeds and maximum hourly mean winds with associated wind directions recorded at various stations when tropical cyclone warning signals for Yutu were in force

站 (參閱圖 1.1) Station (See Fig. 1.1)		最高陣風 Maximum Gust					最高每小時平均風速 Maximum Hourly Mean Wind				
		風向 Direction	風速(公里/時) Speed (km/h)	日期/月份 Date/Month	時間 Time	風向 Direction	風速(公里/時) Speed (km/h)	日期/月份 Date/Month	時間 Time		
黃麻角(赤柱)	Bluff Head (Stanley)	-	-	47	31/10	23:15	-	-	12	1/11	01:00
		-	-				-	-	12	1/11	02:00
中環碼頭	Central Pier	東北偏北	NNE	47	1/11	02:26	東北偏北	NNE	23	1/11	03:00
		東北	NE	47	1/11	19:18					
長洲	Cheung Chau	北	N	63	1/11	22:41	北	N	36	31/10	18:00
長洲泳灘	Cheung Chau Beach	東北	NE	68	1/11	23:02	東北偏北	NNE	31	2/11	00:00
青洲	Green Island	東北偏北	NNE	68	31/10	20:16	東北偏北	NNE	43	31/10	21:00
香港國際機場	Hong Kong International Airport	北	N	45	1/11	16:37	北	N	31	1/11	16:00
啟德	Kai Tak	西北	NW	49	31/10	12:45	北	N	19	31/10	13:00
京士柏	King's Park	東北偏北	NNE	51	31/10	16:48	東北偏北	NNE	22	31/10	14:00
流浮山	Lau Fau Shan	北	N	56	1/11	17:41	北	N	31	1/11	18:00
北角	North Point	北	N	41	31/10	12:33	北	N	23	31/10	13:00
		北	N	41	31/10	12:44					
坪洲	Peng Chau	北	N	56	31/10	11:05	北	N	34	1/11	23:00
		北	N	56	31/10	11:06					
平洲	Ping Chau	東北偏北	NNE	34	1/11	20:00	北	N	9	1/11	14:00
							北	N	9	1/11	16:00
西貢	Sai Kung	北	N	59	31/10	13:52	北	N	36	31/10	14:00
沙洲	Sha Chau	北	N	56	1/11	15:48	北	N	41	1/11	18:00
		北	N	56	1/11	15:49					
沙螺灣	Sha Lo Wan	東北	NE	41	31/10	22:02	東北	NE	19	1/11	03:00
沙田	Sha Tin	東北偏北	NNE	41	31/10	12:36	東北偏北	NNE	19	31/10	13:00
石崗	Shek Kong	東北偏北	NNE	43	31/10	12:25	東北	NE	20	31/10	11:00
九龍天星碼頭	Star Ferry (Kowloon)	西	W	30	31/10	13:23	西北偏西	WNW	7	31/10	13:00
打鼓嶺	Ta Kwu Ling	東北偏北	NNE	54	1/11	01:19	東北偏北	NNE	23	1/11	20:00
		東北	NE	54	1/11	16:25	北	N	23	1/11	22:00
大美督	Tai Mei Tuk	北	N	63	1/11	18:03	東北	NE	36	31/10	13:00
大帽山	Tai Mo Shan	東北	NE	88	31/10	20:36	東北	NE	68	31/10	21:00
大埔滘	Tai Po Kau	北	N	43	31/10	13:46	西北偏西	WNW	19	1/11	19:00
塔門東	Tap Mun East	北	N	51	1/11	17:46	西北偏北	NNW	22	1/11	19:00
							北	N	22	1/11	20:00
大老山	Tate's Cairn	北	N	79	31/10	23:49	北	N	58	31/10	22:00
							北	N	58	31/10	23:00
							北	N	58	1/11	01:00
							西北偏北	NNW	58	1/11	21:00
							西北偏北	NNW	58	1/11	22:00
將軍澳	Tseung Kwan O	東北	NE	43	1/11	20:56	東北	NE	19	1/11	13:00
青衣島蜆殼油庫	Tsing Yi Shell Oil Depot	北	N	56	1/11	20:24	西北偏北	NNW	23	1/11	13:00
屯門政府合署	Tuen Mun Government Offices	東北偏北	NNE	62	1/11	21:33	東北偏北	NNE	23	1/11	22:00
橫瀾島	Waglan Island	北	N	62	1/11	15:39	北	N	51	1/11	16:00
濕地公園	Wetland Park	東北偏北	NNE	41	31/10	23:43	東北偏北	NNE	13	1/11	19:00
黃竹坑	Wong Chuk Hang	西北	NW	43	31/10	21:17	西	W	13	1/11	21:00

昂坪- 沒有資料 Ngong Ping - data not available

表 3.6.2 在玉兔影響下，熱帶氣旋警告信號系統的八個參考測風站在熱帶氣旋警告信號生效時錄得持續風力達到強風程度的時段

Table 3.6.2 Periods during which sustained strong force winds were attained at the eight reference anemometers in the tropical cyclone warning system when tropical cyclone warning signals for Yutu were in force

站 (參閱圖 1.1) Station (See Fig. 1.1)		最初達到強風*		最後達到強風*	
		時間		時間	
		Start time when strong wind speed* was attained		End time when strong wind speed* was attained	
		日期/月份 Date/Month	時間 Time	日期/月份 Date/Month	時間 Time
長洲	Cheung Chau	31/10	17:45	31/10	17:51
西貢	Sai Kung	31/10	13:27	31/10	13:31

香港國際機場、啟德、沙田、流浮山、打鼓嶺及青衣島蜆殼油庫的持續風力未達到強風程度。
The sustained wind speed did not attain strong force at the Hong Kong International Airport, Kai Tak, Sha Tin, Lau Fau Shan, Ta Kwu Ling and Tsing Yi Shell Oil Depot.

* 十分鐘平均風速達每小時 41-62 公里

* 10-minute mean wind speed of 41-62 km/h

註： 本表列出持續風力達到強風程度的起始及終結時間。其間風力可能高於或低於指定的風力。

Note: The table gives the start and end time of sustained strong force winds. Winds might fluctuate above or below the specified wind speeds in between the times indicated.

表 3.6.3 玉兔掠過期間，香港天文台總部及其他各站所錄得的日雨量
Table 3.6.3 Daily rainfall amounts recorded at the Hong Kong Observatory Headquarters and other stations during the passage of Yutu

站		十月三十一日	十一月一日	十一月二日	總雨量 (毫米)
Station		31 Oct	1 Nov	2 Nov	Total (mm)
香港天文台 Hong Kong Observatory		0.0	0.0	0.1	0.1
香港國際機場 Hong Kong International Airport (HKA)		0.0	0.2	微量 Trace	0.2
長洲 Cheung Chau (CCH)		0.0	0.0	0.0	0.0
H23	香港仔 Aberdeen	0.0	0.0	0.0	0.0
N05	粉嶺 Fanling	0.0	0.0	0.0	0.0
N13	糧船灣 High Island	0.0	0.0	0.0	0.0
K04	佐敦谷 Jordan Valley	0.0	0.0	2.0	2.0
N06	葵涌 Kwai Chung	0.0	0.0	0.0	0.0
H12	半山區 Mid Levels	0.0	0.0	0.0	0.0
N09	沙田 Sha Tin	0.0	0.0	[0.0]	[0.0]
H19	筲箕灣 Shau Kei Wan	0.0	0.0	0.0	0.0
SEK	石崗 Shek Kong	0.0	0.0	0.0	0.0
K06	蘇屋邨 So Uk Estate	0.0	0.0	1.5	1.5
R31	大美督 Tai Mei Tuk	0.0	0.5	0.0	0.5
R21	踏石角 Tap Shek Kok	0.0	0.0	0.0	0.0
N17	東涌 Tung Chung	0.0	0.0	0.0	0.0
TMR	屯門水庫 Tuen Mun Reservoir	0.0	0.0	0.0	0.0

註：[] 基於不完整的每小時雨量數據。 Note: [] based on incomplete hourly data.

表 3.6.4 玉兔掠過期間，香港各潮汐站所錄得的最高潮位及最大風暴潮
Table 3.6.4 Times and heights of the maximum sea level and the maximum storm surge recorded at tide stations in Hong Kong during the passage of Yutu

站 (參閱圖 1.1) Station (See Fig. 1.1)		最高潮位 (海圖基準面以上) Maximum sea level (above chart datum)			最大風暴潮 (天文潮高度以上) Maximum storm surge (above astronomical tide)		
		高度(米) Height (m)	日期/月份 Date/Month	時間 Time	高度(米) Height (m)	日期/月份 Date/Month	時間 Time
鰂魚涌	Quarry Bay	2.63	2/11	04:51	0.51	1/11	15:11
石壁	Shek Pik	2.66	2/11	04:44	0.49	2/11	04:44
大埔滘	Tai Po Kau	2.77	1/11	02:32	0.57	1/11	02:30
大廟灣	Tai Miu Wan	2.78	2/11	03:56	0.65	2/11	03:56
尖鼻咀	Tsim Bei Tsui	2.73	2/11	05:53	0.59	1/11	12:11

橫瀾島 - 沒有資料 Waglan Island - data not available

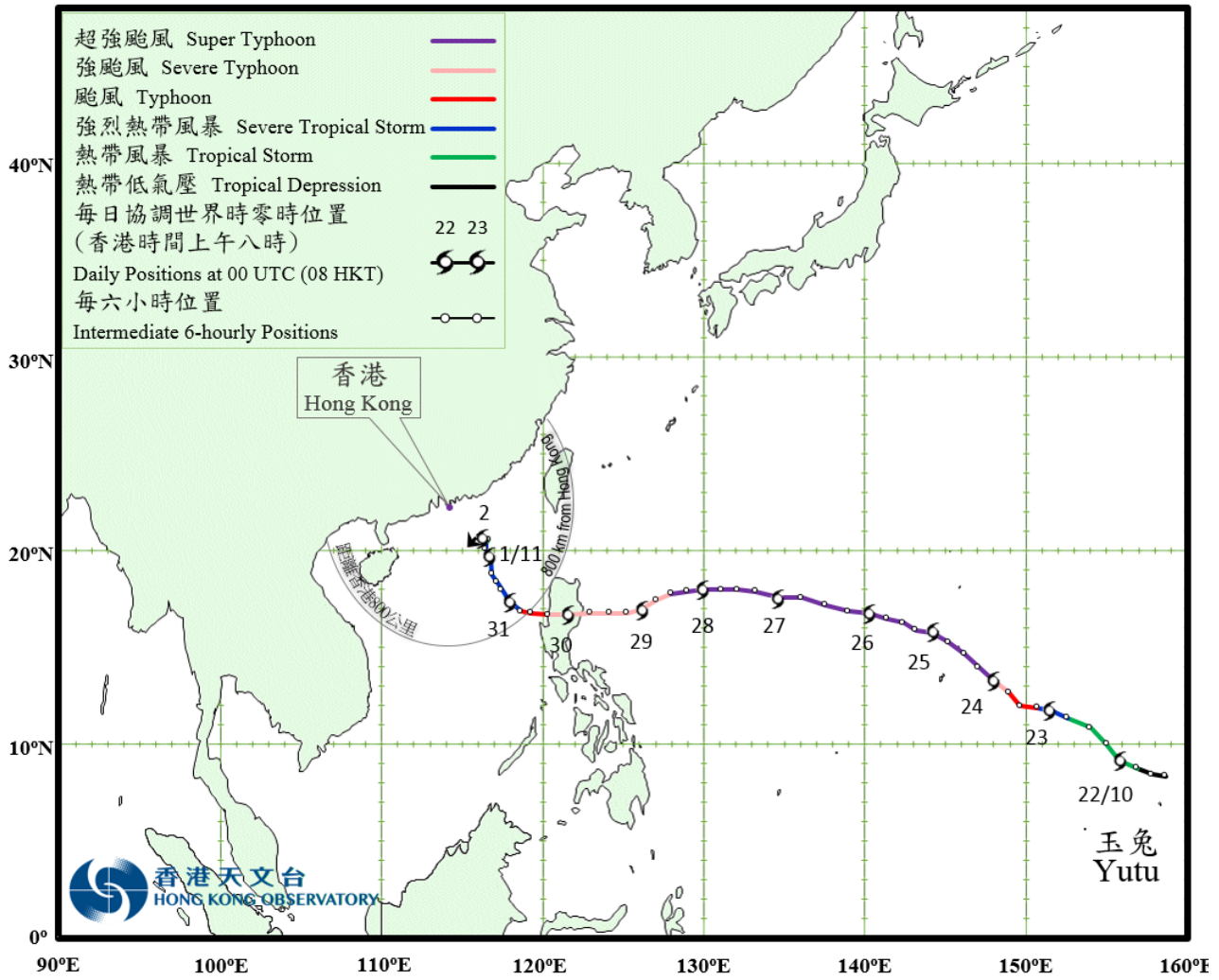


圖 3.6.1a 二零一八年十月二十一日至十一月二日玉兔的路徑圖。
 Figure 3.6.1a Track of Yutu: 21 October - 2 November 2018.



圖 3.6.1b 玉兔接近香港時的路徑圖。

Figure 3.6.1b Track of Yutu near Hong Kong.

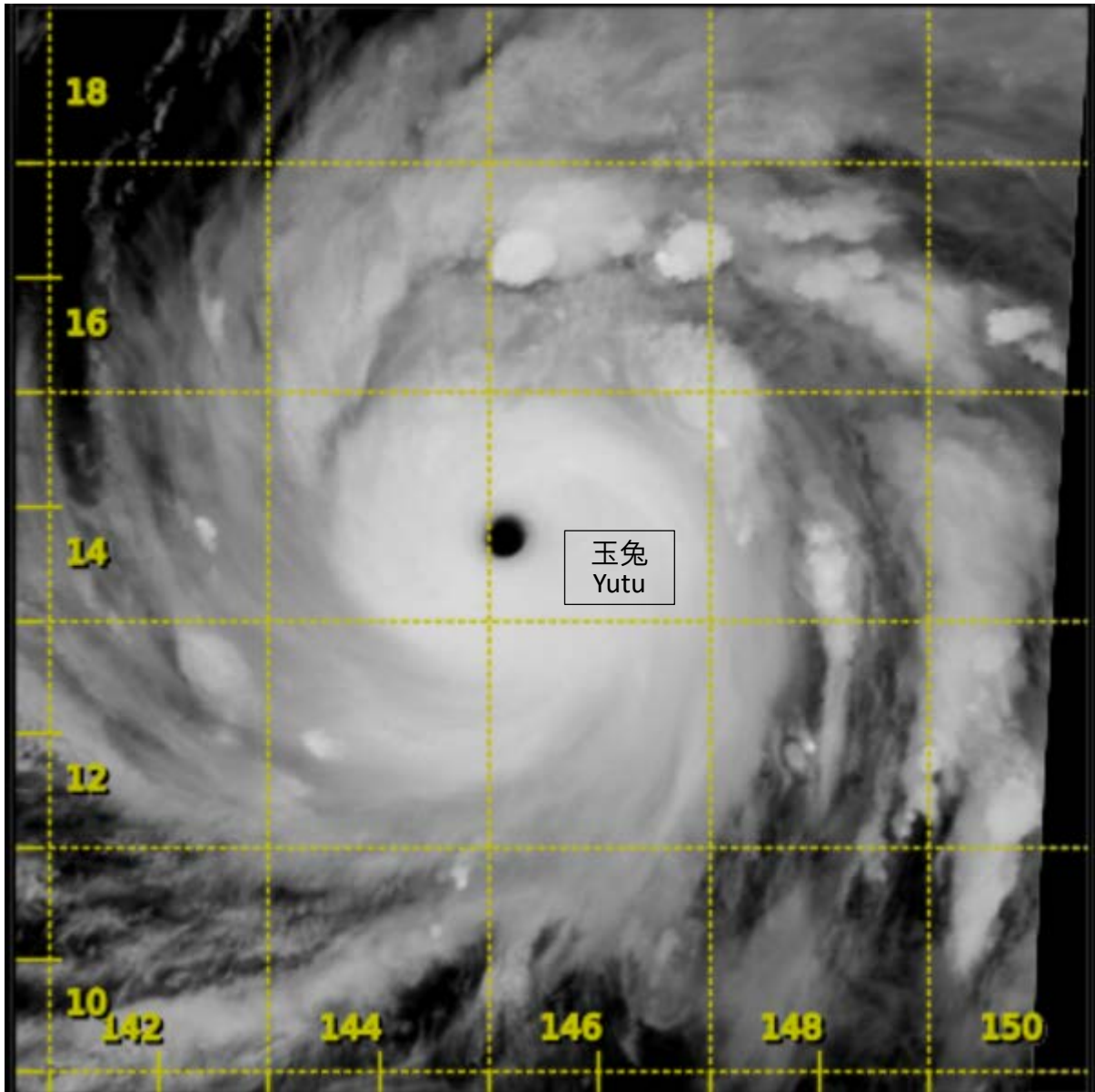


圖 3.6.2a 二零一八年十月二十四日下午 8 時左右的紅外線衛星圖片，當時玉兔達到其最高強度，中心附近最高持續風速估計為每小時 250 公里。

Figure 3.6.2a Infra-red satellite imagery around 8 p.m. on 24 October 2018, when Yutu was at peak intensity with an estimated maximum sustained winds of 250 km/h near its centre.

[此衛星圖像接收自日本氣象廳的向日葵 8 號衛星。]

[The satellite imagery was originally captured by Himawari-8 Satellite (H-8) of Japan Meteorological Agency (JMA).]

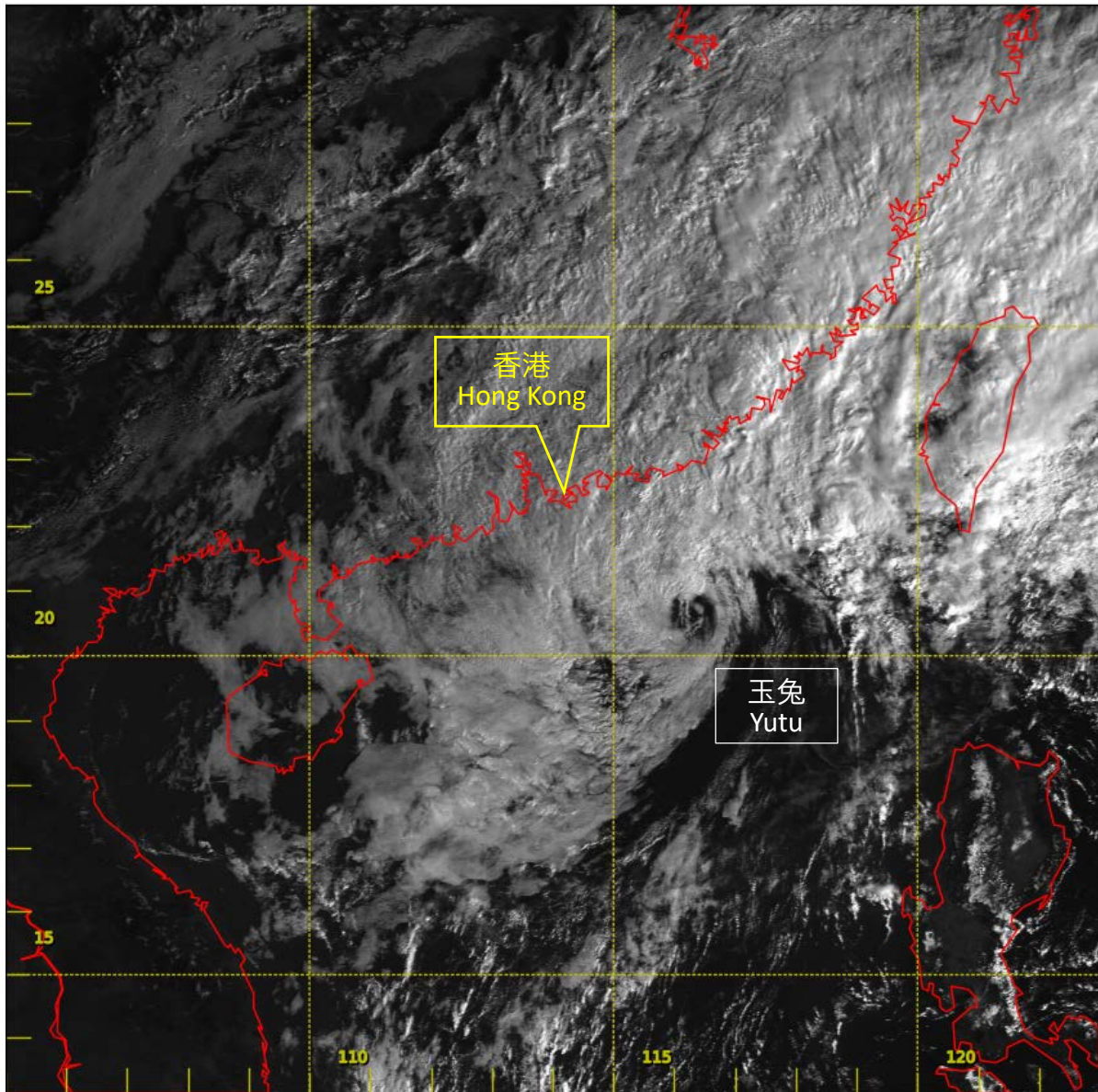


圖 3.6.2b 二零一八年十一月二日上午 8 時左右的可見光衛星圖片，當時玉兔已減弱為熱帶低氣壓。

Figure 3.6.2b Visible satellite imagery around 8 a.m. on 2 November 2018, when Yutu was weakened into a tropical depression.

[此衛星圖像接收自日本氣象廳的向日葵 8 號衛星。]

[The satellite imagery was originally captured by Himawari-8 Satellite (H-8) of Japan Meteorological Agency (JMA).]

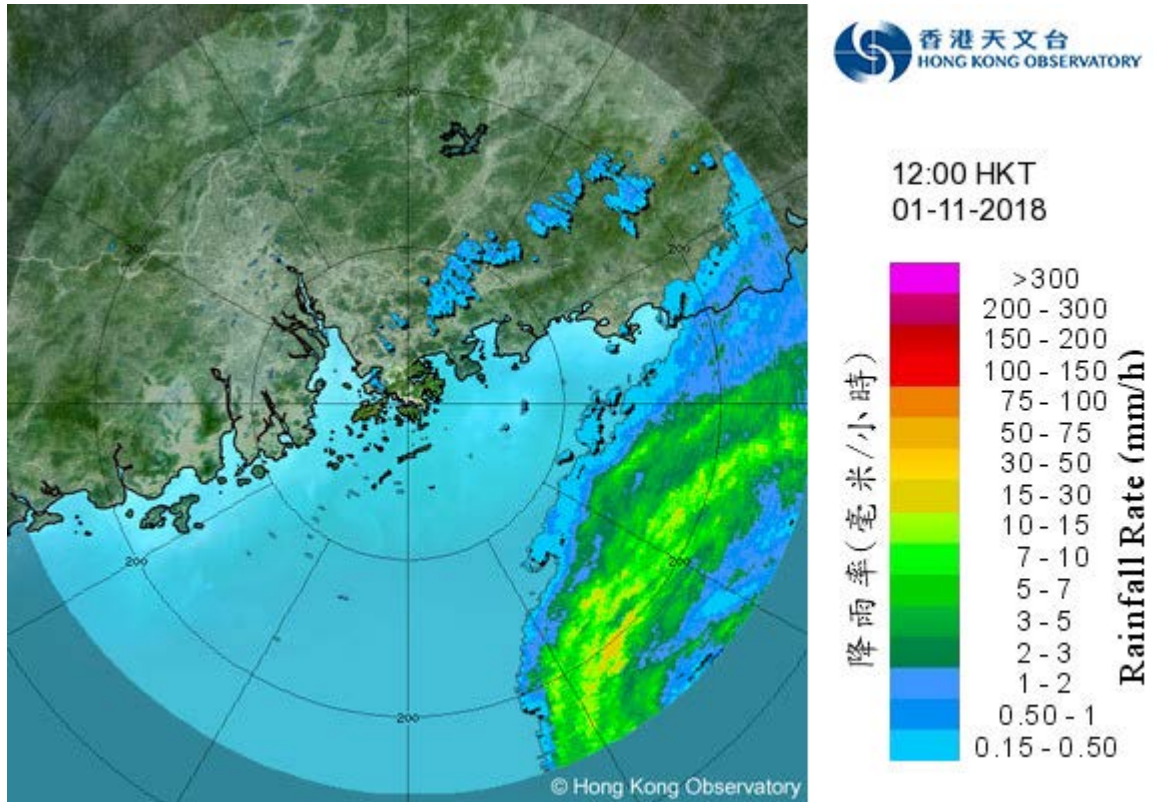


圖 3.6.3 二零一八年十一月一日正午 12 時的雷達回波圖像，與玉兔相關的雨帶正影響南海東北部。

Figure 3.6.3 Radar echoes captured at noon on 1 November 2018. Rainband associated with Yutu was affecting the northeastern part of the South China Sea.