



# **Research Forum 2019**

## **Hong Kong Observatory**

# **Impacts of Mangkhut on Airport Operations**

## **Airport Authority Hong Kong**

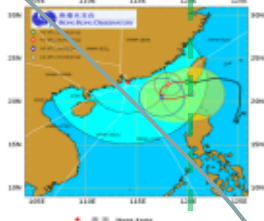
**May 2019**

# Adverse Weather Response

## Flight Operations



HKO Typhoon Briefing



## Exercises & Drills

- Summer Blow Ex
- ALWS Ex
- PCT Ex
- RHO Typhoon Drill



## Workshops

- Weather Preparedness
- Crowd Management
- FRCS
- ALWS



## Contingency Plans

1. Departure Ground Holding Procedure
2. ALWS System
3. FRCS System
4. Baggage Contingency Plans
5. Emergency Message Broadcast (EMB)
6. FIDS Contingency
7. Terminal Crowd Management Plans
8. Passenger Care Team (PCT)
9. Landside Transport Contingency

- Parking Stand
- Flight Schedule
- FIDS
- Transportation
- Passenger Flow
- Baggage Flow
- Information Flow

## Incident Response

Preparedness & Alert

Response Business Continuity

Recovery



# Near Miss vs Hard Hit

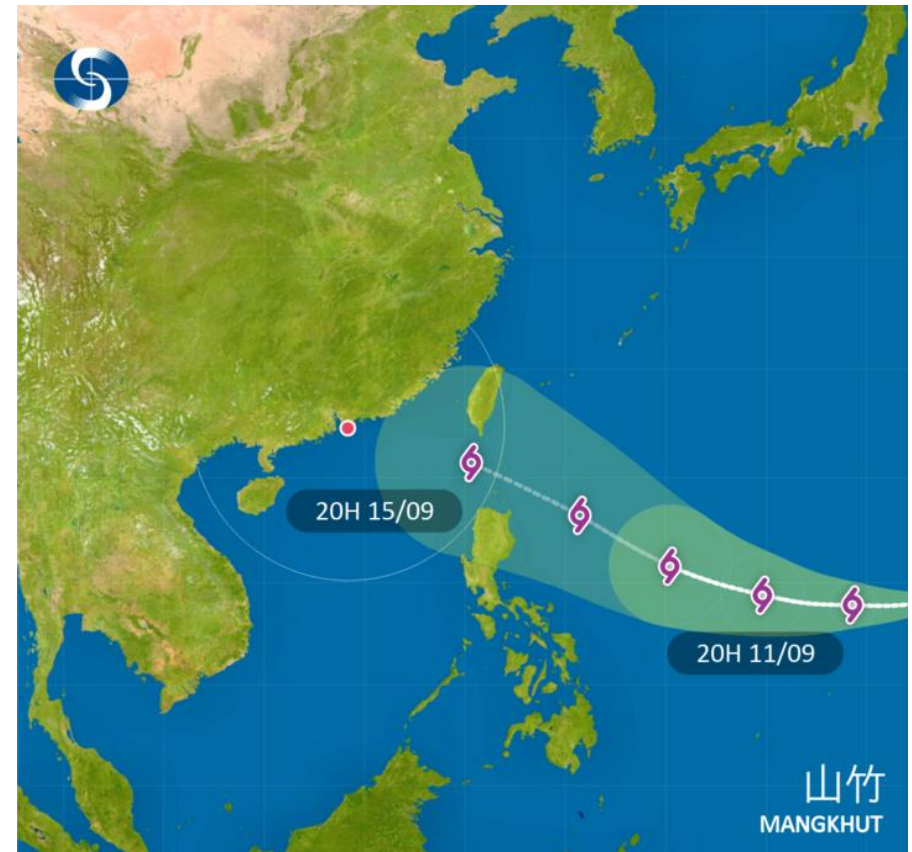
**10 September 2018**

Maximum sustained wind near centre:  
55 km/h



**11 September 2018**

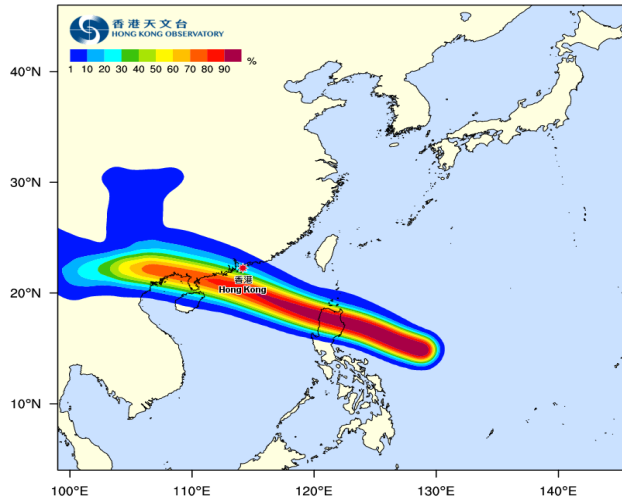
Maximum sustained wind near centre:  
145 km/h



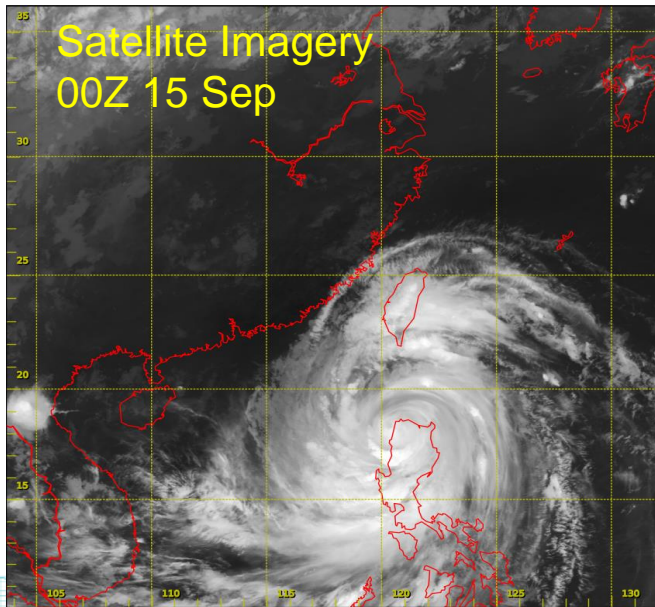
# Weather Briefing & Airport Coordination



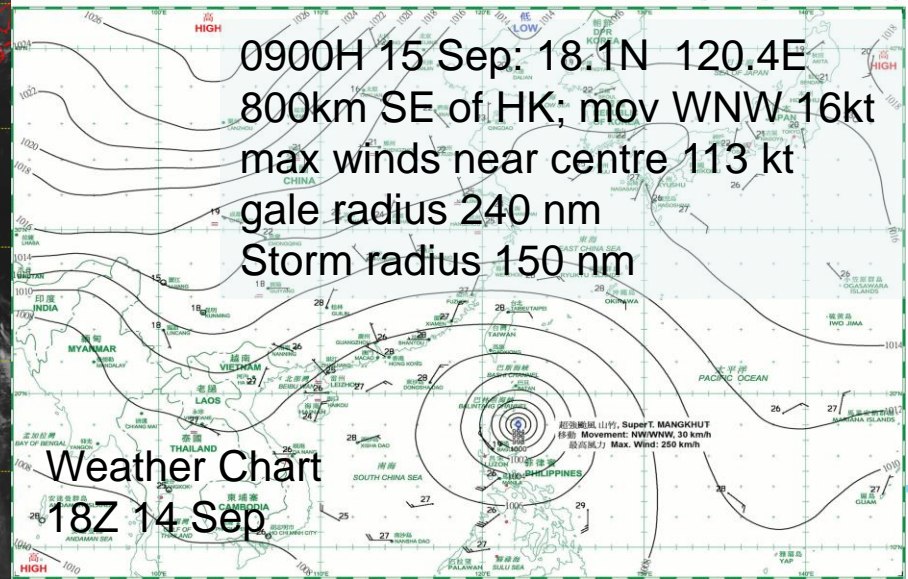
# Forecast Track and Uncertainty



# Satellite Imagery and Weather Chart



日期/Date: 15.09.2018 香港時間/HK Time: 02:00 香港天文台 Hong Kong Observatory



# Provisional TAF

TEMPO 1508/1514 02020G30KT 2500 TSRA SHRA FEW010CB SCT020 (N'ly Xw 15/23)  
BECMG 1514/1516 03030KT (N'ly Xw 19)  
TEMPO 1516/1602 06035G45KT 2500 SHRA FEW010CB SCT020 (N'ly Xw 6/8)  
BECMG 1600/1602 08040KT (S'ly Xw 7)  
TEMPO 1602/1612 12055G65KT 1500 +SHRA FEW008 SCT015CB BKN040 (S'ly Xw 42/50)  
TEMPO 1612/1619 12045G55KT 1500 +SHRA FEW008 SCT015CB BKN040 (S'ly Xw 34/42)  
BECMG 1619/1621 12030KT (S'ly Xw 23)  
TEMPO 1619/1703 13035G45KT 2000 +SHRA FEW008 SCT015CB BKN040 (S'ly Xw 30/39)  
BECMG 1703/1705 15020KT (S'ly Xw 20)  
TEMPO 1703/1709 15025G35KT 2500 +SHRA FEW008 SCT015CB BKN040 (S'ly Xw 25/34)



# Impact

- Rapid change in weather tonight overnight
- Closest approach: Early afternoon 16 Sep, 150 km SSW of HKIA
- Mean winds  $\geq 35$  KT : 00 – 19 Z 16 Sep
- Gusts up to 55~65 KT in squalls
- Periods of crosswinds  $\geq 35$ KT
- N'lies → E'lies → S~ SE'lies
- Torrential rain
- Significant low level windshear & turbulence
- High hilltop winds from the south up to Monday afternoon
- Storm tide at CLK: 3 to 4 mCD (Can be 5 mCD for closer track)



# HKIA Preparation

## Airlines / Business Jets

- Flight consolidation
- Announced rebook and cancellation arrangement
- Secured grounded aircrafts
- Minimize transfer via HKIA

## AAHK

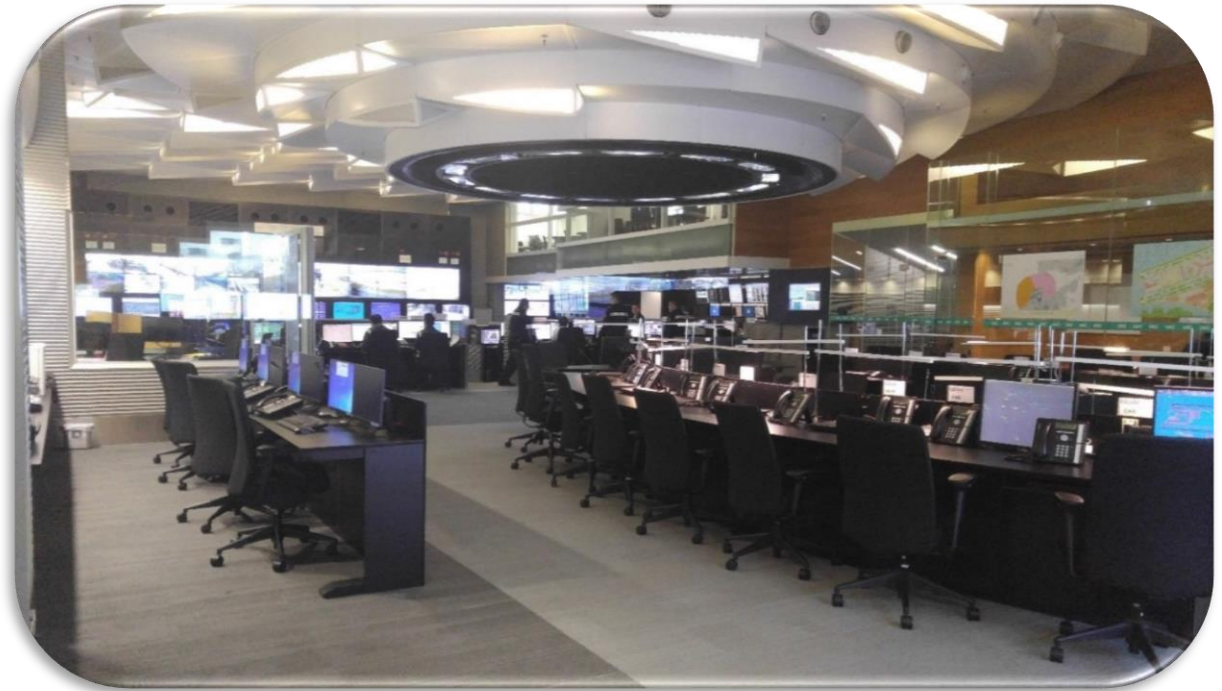
- Secured airbridges and airfield ground service equipment
- Secured worksites
- Secured landside trees, checked drainages
- Crowd management setup
- Mobilize F&B supplies
- Coordinated for public transport and ferry services





# HKIA Response

- Airport Emergency Centre Activated



# HKIA Response – Business Continuity

- Real time responses
  - Public transport / AEL disrupted
  - Coordinated taxi services, activated staff transport
  - Managed facilities defects due to strong wind
  - Passenger cares



# HKIA Recovery

- Flight rescheduling
  - 1,099 flights processed, dual runway operations
  - Closely monitored with ATC on runway capacity
- Airfield and Terminal Measures :
  - Alleviated aircraft parking stand constraints
  - Recovery of damaged airbridges
  - FIDs Contingency
  - APM service extension
- Transportation Measures :
  - Added bus routes for recovery

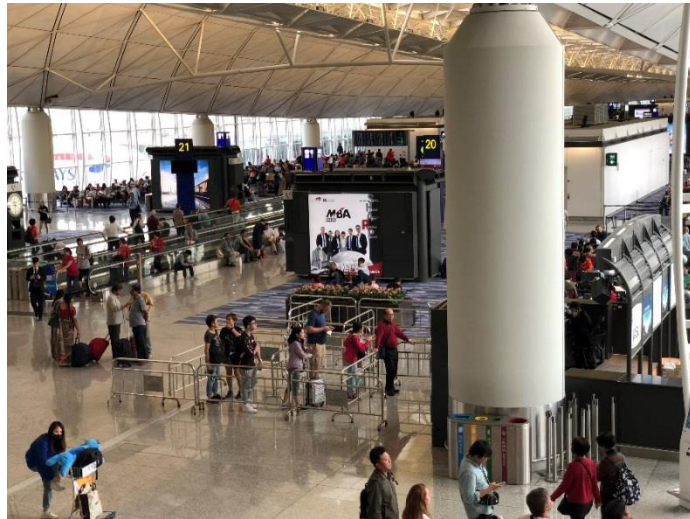


# Crowd Management

Clear messages disseminated to the public, which were favorable to crowd management at the airport.



# Crowd Management during Mangkhut



# Passenger Communication

## Kept Passengers well Informed

- Airlines – Cancellation, Delay, Rebook, Refund  
(website, notifications, PR/travel advisory, social media, etc.)
- AAHK – Potential disruptions to air traffic  
(website, MyFlights, PA, UDS, etc.)



# Media Management

- Work closely with airport stakeholders
- Keep the media abreast of latest situation and manage expectations

## Joint Media Standup



## Response to Electronic Media Enquiry News Clippings

### 航班重新編配 機場旅客漸散

香港文匯報訊（記者 文森）颶風馬襲港，前日八號風球懸掛令多班航班取消，隨着風暴威脅漸小，昨日本港航空交通開始回復正常。機管局昨日表示，實施航班重新編配，預計全日可處理超過一千班航班，昨早航空公司櫃位仍然有不少旅客輪候機位，及後滯留機場旅客陸續消散。機場昨日早上依然人頭湧湧，

大批乘客等候辦理登機手續，但部分航班仍然取消，多間航空公司在櫃檯張貼航班告示。不少旅客通宵滯留，在椅子甚至地上蜷縮睡覺，亦有人在一角看書和用手機消磨時間。

有前往馬來西亞的旅客指，等候超過三十小時，仍未知道有何安排，認為安排混亂，因為航班取消不能做任何事。他指機管局

或航空公司不論是住宿、食物或飲品，或任何東西都沒有供給，自己大感疲累。

#### 內地客：獲安排乘下午機可接受

有內地旅客原定前晚前往北京，但因為班機取消，在機場坐了一整晚。他說，因為機場酒店昂貴及無房，加上天氣惡劣，因此留在機場，最終在清晨獲安排乘坐下午的飛機，認為航空公司安排可以接受。



東網

### 山竹襲港：機管局宣布明天取消1200航班

09月15日(六) 19:06更新  
16:35建立

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更多新聞短片

山竹襲港：機管局指明日大部分航班暫停

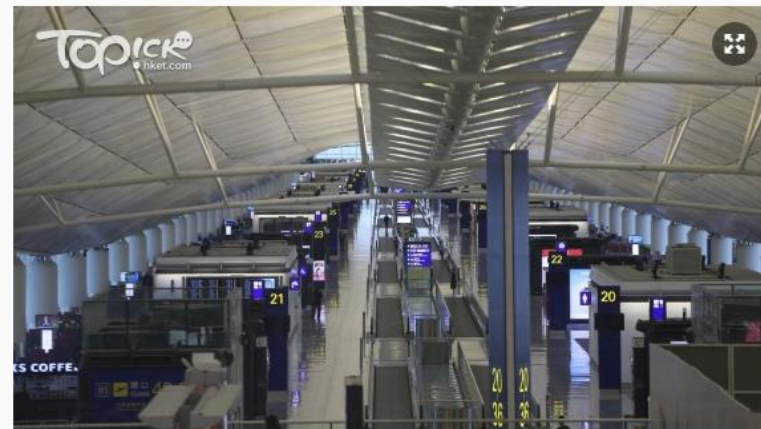


### 【颱風山竹】機場取消889航班 明日起重編航班

17:24 2018/09/16

讚好 1

熱門 跳躍生命線 零獎福餅 恐怖童兒 港女出產 綠葉王 港橋修員 TVB藝人 演藝會



機管局稱全日（16日）有889航班需取消。（陳國峰攝）

強颶風山竹襲港，影響香港機場運作，機管局稱全日（16日）有889航班需取消，港鐵機場快線亦暫停服務。機管局表示明（17日）起重重新編配航班，或需持續1至2日。



# Staying Alert for the Next Typhoon

## THANK YOU

