



CMA Typhoon Operations and Emergency Responses During COVID-19

1 – 2 December 2020

QIAN Chuanhai, NMC/CMA

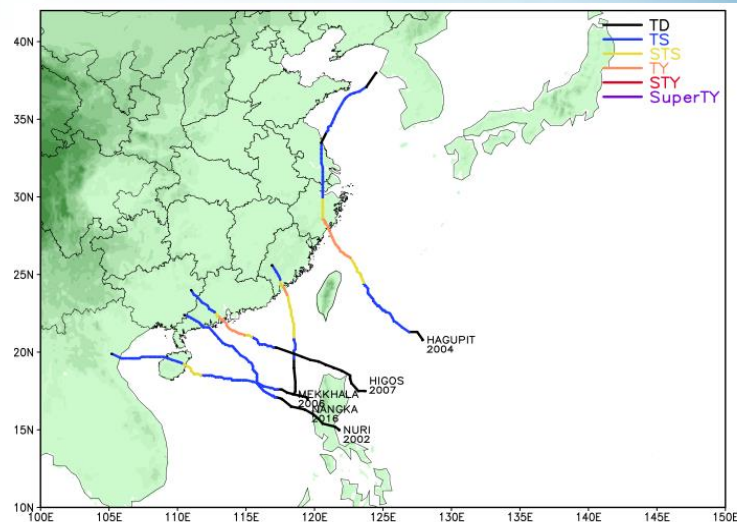
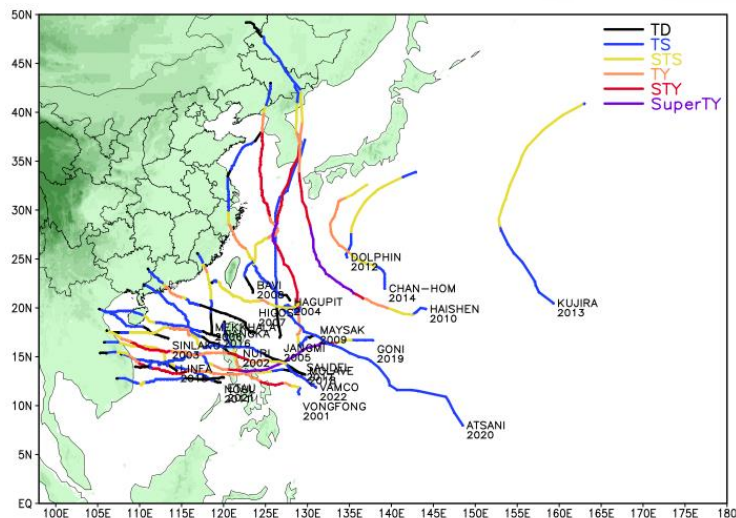


Outline

Part 1: Overview of 2020 Typhoon Season

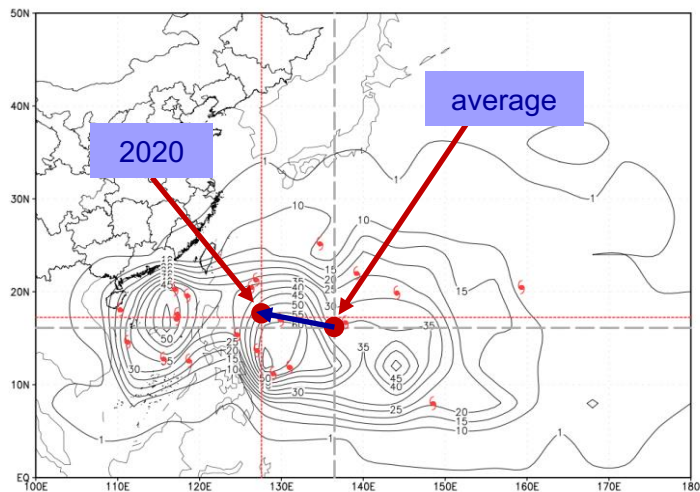
Part 2: CMA Emergency Responses During COVID-19

Part One: Overview of 2020 Typhoon Season



As of 30 November 2020, 22 TCs have formed over the western North Pacific and the South China Sea, with 3.8 TCs less than normal (25.8 TCs). 5 TCs have made landfall over China, with 2.0 TCs less than normal (7.0 TCs).

Part One: Overview of 2020 Typhoon Season

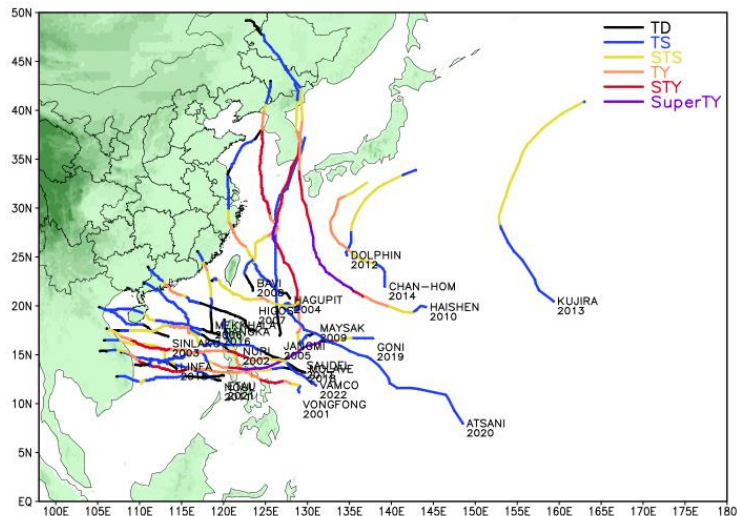


2020 TCs' genesis locations compared with the average conditions

□ Distinctly Westward TC Genesis Locations

The average genesis location of 2020 TCs is 17.2° N, 127.6° E. It is nearly 9 degrees to the west and 1 degree to the north compared with the multi-year average (16.1° N, 136.5° E). The farther westward the genesis locations are, the more likely the TCs are to make landfall over Philippines, China or Vietnam.

Part One: Overview of 2020 Typhoon Season



Tracks of tropical cyclones in 2020

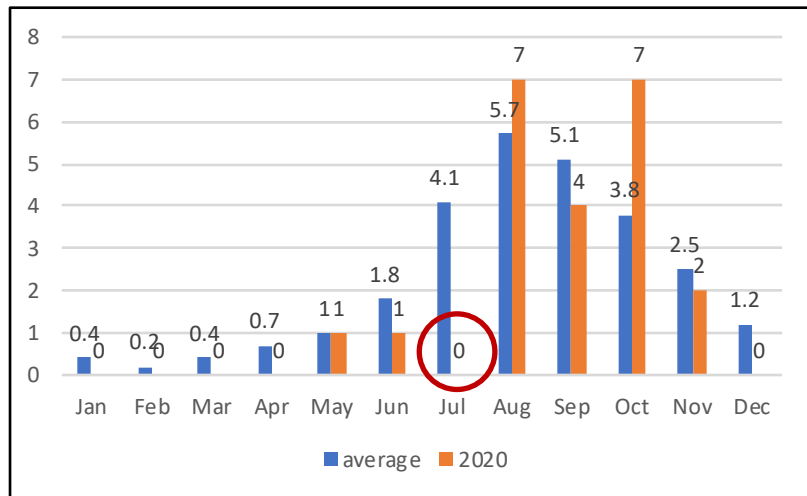
□ Weaker Peak Intensity

As of 30 November 2020, 22 TCs have an average peak intensity of 36.4 m/s, which is obviously lower than the multi-year average of 40.1 m/s.

□ Weaker Landfalling TC Intensity

The 5 TCs made landfall over China with an average intensity of 30.8 m/s, slightly lower than the multi-year average of 32.6 m/s.

Part One: Overview of 2020 Typhoon Season

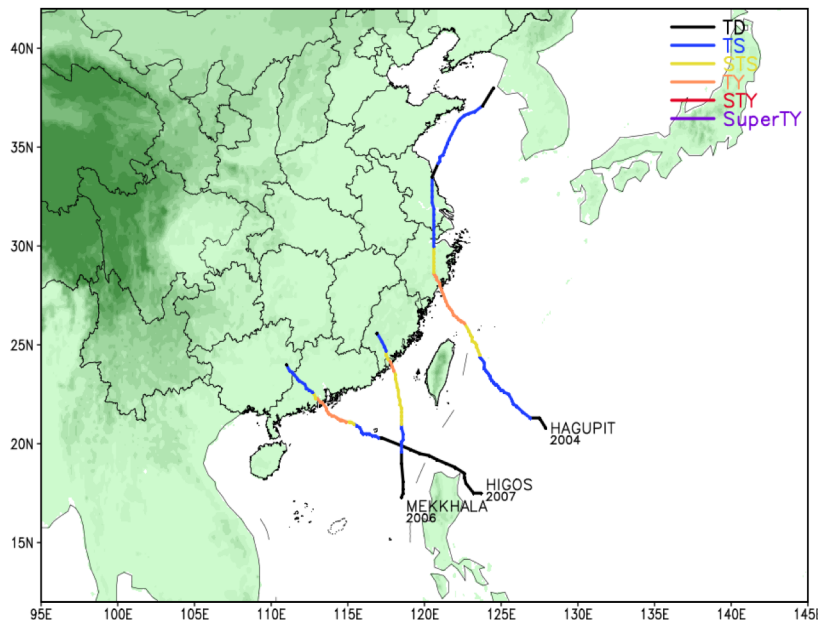


Monthly averaged TC genesis and monthly TC genesis in 2020

□ A New Record of non Named TC in July

No TCs formed over the NW Pacific and the South China Sea this July, setting a zero TC record for July in the meteorological history since 1949.

Part One: Overview of 2020 Typhoon Season

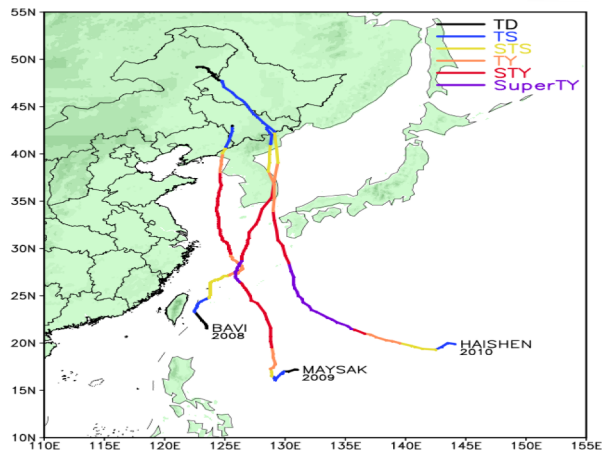


TCs tracks for Hagupit, Mekkhala and Higos in August of 2020

□ Active August with Three RI TCs Making Landfall over SE China

7 TCs occurred in August, 1.3 more than the average. three typhoons, Hagupit, Mekkhala, and Higos, underwent rapid intensification over costal waters and made landfall with peak intensity. It is worth noting that time duration for Mekkhala from formation to landfall is only 20.5 hours, less than a half of the average “local” SCS TCs (48.6 hours). Such a short interval posed a big challenge to TC forecasting and warning.

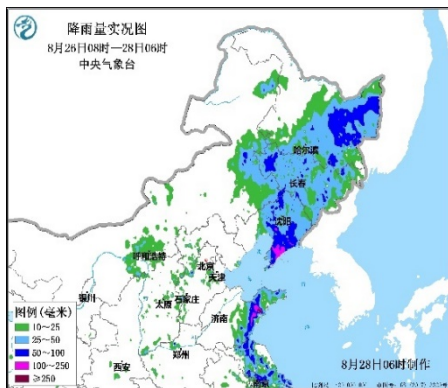
Part One: Overview of 2020 Typhoon Season



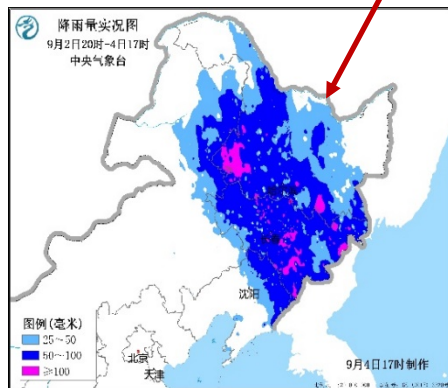
NE China Hit by Three TCs in Succession – Very Rare in History

NE China was hit by three typhoons in quick succession - Bavi, Maysak and Haishen - from 26 August to 8 September, being unprecedented in local meteorological history.

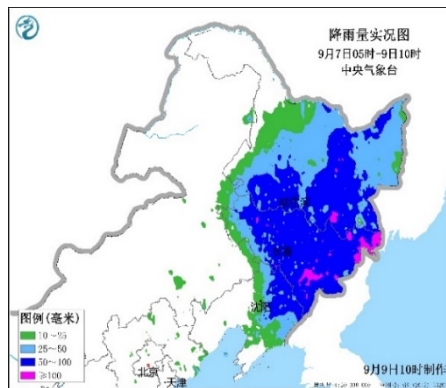
Daily rainfalls of 49 stations in Jilin and Heilongjiang Provinces broke the history records in September.



total precipitation by Bavi



total precipitation by Maysak



total precipitation by Haishen



Part 2 :

CMA Emergency Response Under COVID-19

As a membership unit of the Joint Control and Prevention Mechanism for the COVID-19 under the State Council, CMA makes great efforts as follows:

- ❑ To do the best to make as accurate weather forecasts as we can and issue different kinds of warnings to the public and government, trying to avoid the overlapped influence of high impact weather on the COVID-19 control and prevention, and to support the nationwide return-to-work-and-production.

CMA provides 117 Special Meteorological Report to the Joint Control and Prevention Mechanism Office.

- ❑ To provide point-to-point weather services for the construction and operation of Emergency Hospitals.

CMA, toally, made special weather forecasts for 32 mobile cabin hospitals.

- ❑ To deseminate COVID-19 control and prevention messages through the National Emergency Warning Release System based on the requirement of the Joint Control and Prevention Mechanism to the cities and rural areas, especially to those of 450,000 expressmen (couriers).

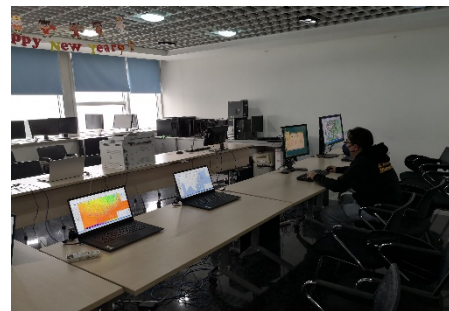
Part 2 :

CMA Emergency Response Under COVID-19

- ❑ To set backup-weather-forecast-office in case of COVID-19 occurrence in the operational building



weather forecast office



backup weather forecast office

Part 2 :

CMA Emergency Response Under COVID-19

❑ Holding online Annual Meeting of CMA Typhoon and Marine Weather Expert Working Group



25 experts are on-site and other 58 participants online

The #2 meeting for the 9th Expert Working Group of Typhoon and Marine Weather of CMA was held on 16 April 2020, in the way of on-site plus video system, focusing on:

- ❑ Summary of 2019 works
- ❑ Setting the 2020 Work plan and major tasks
- ❑ Discussing future development and science issues for typhoon an marine weather forecasts

Part 2 :

CMA Emergency Response Under COVID-19

❑ Launching Haiyan Observation Programme in 2020

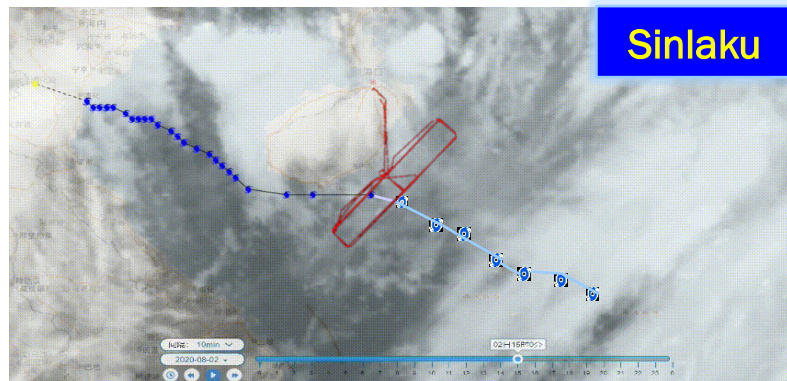
Wing Loong-10 UAV



Dropsonde



Sinlaku



Drifting Buoy





Part 2 :

CMA Emergency Response Under COVID-19

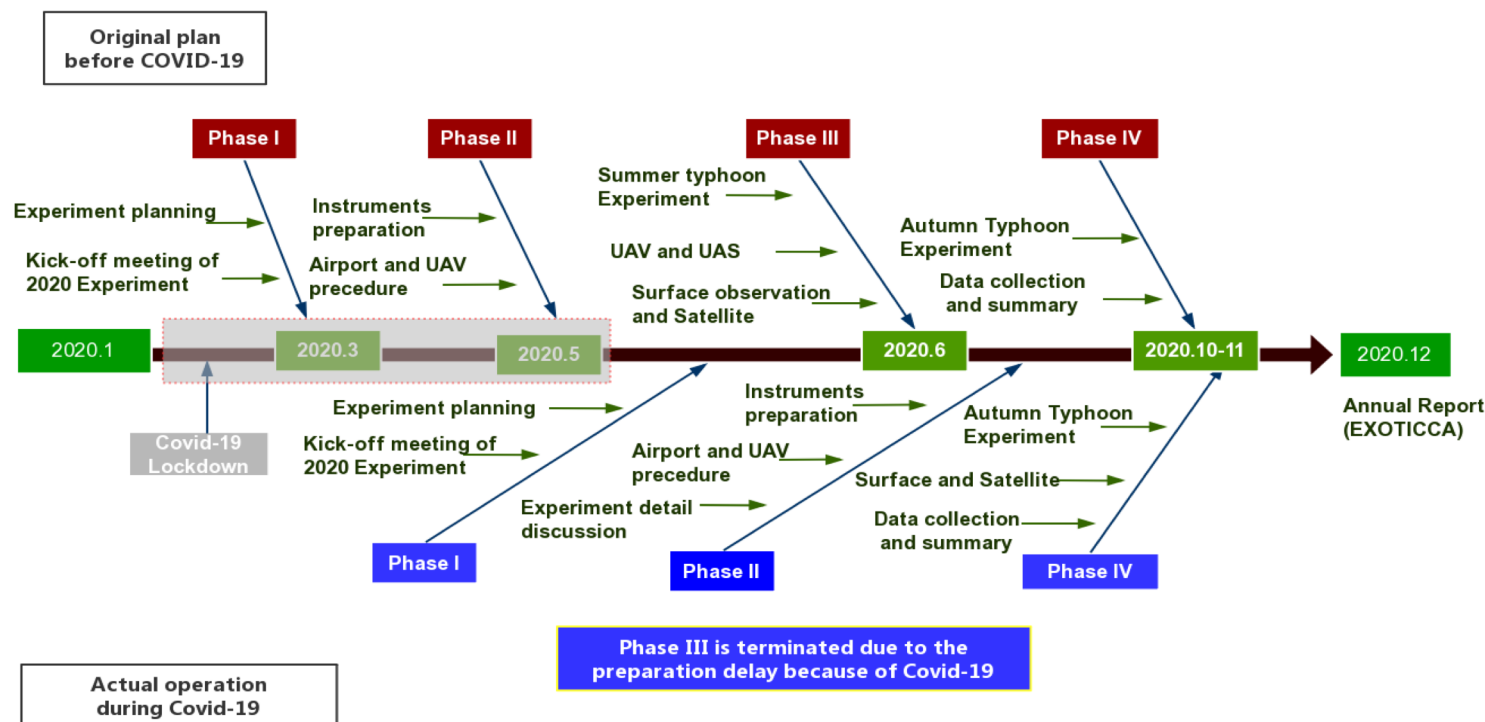
COVID-19's Impacts on Haiyan Observation Programme

- ❑ Joint calibration and test for the Dropsonde and Millimeter Wave Cloud Radar in the UAV factory Scheduled during March to May was delayed due to the COVID-19.
- ❑ The delayed-and-simplified calibration and test were carried out on site of field experiment in Hainan Island in a short period.
- ❑ Due to the prevention and control measures for COVID-19, the participants are limited to a minimum number of meteorologists and engineers, bringing some difficulties and challenges to this programme.

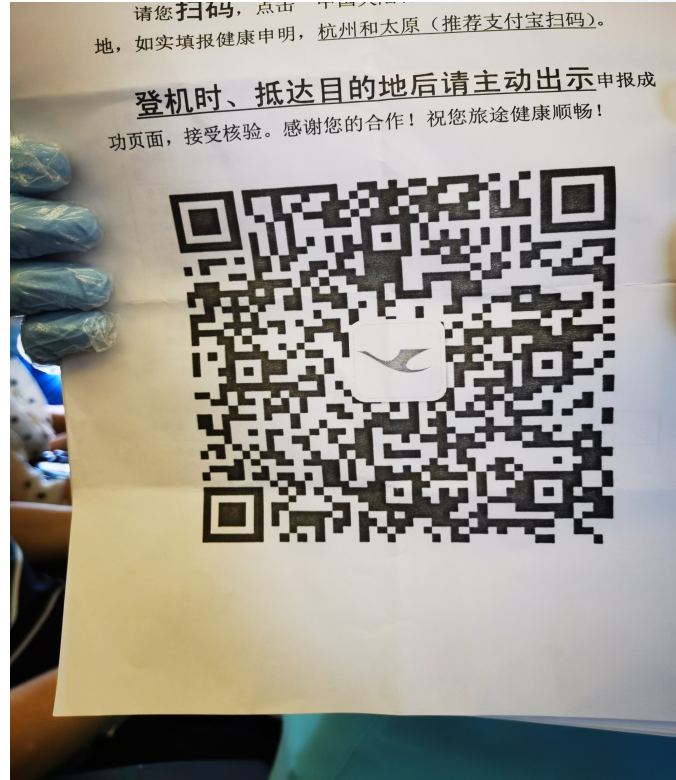
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CMA Emergency Response Under COVID-19

2020 EXOTICCA plan and actual operation under COVID-19



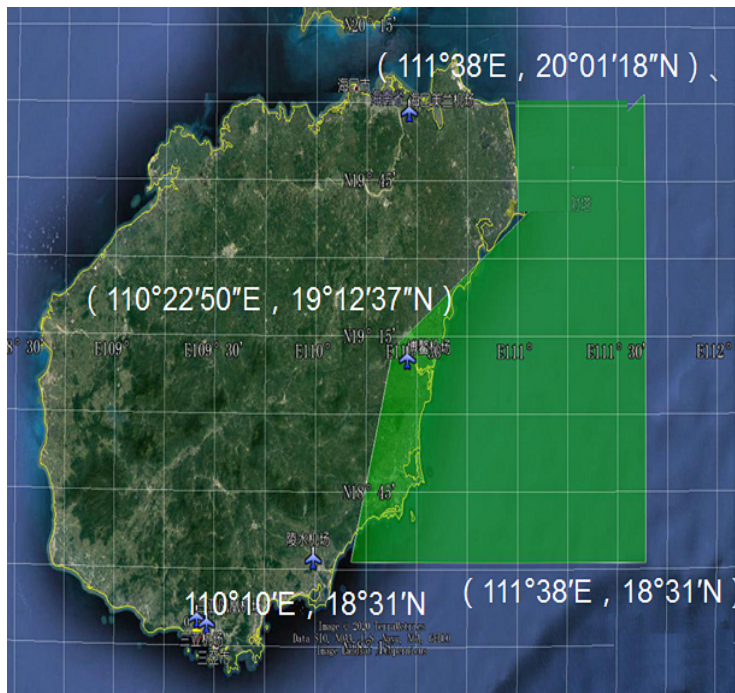
Experiment preparation During Covid-19 since May 19



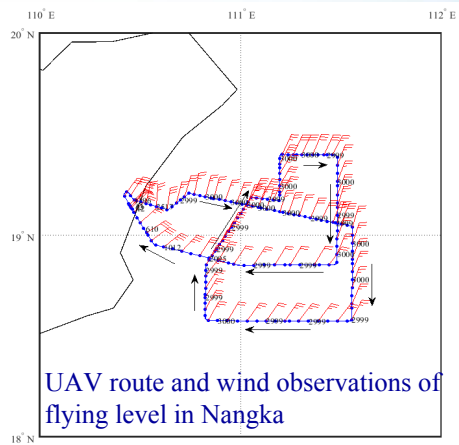
STI Researchers departure for EXOTICCA preparation from Shanghai to Hainan with "Heathy Code" of COVID-19

EXOTICCA Target: Typhoon Nangka

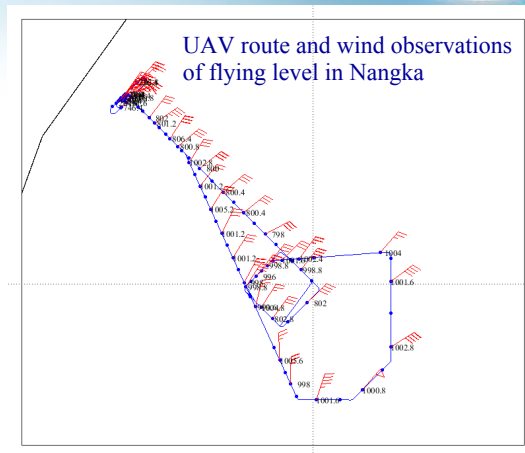
12 OCT. 2020, 24h before landfall



UAV flying zone for Nangka

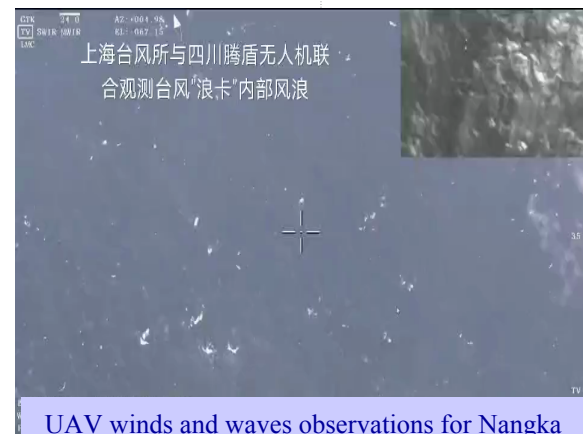


UAV route and wind observations of flying level in Nangka



UAV route and wind observations of flying level in Nangka

STI researchers released sounding balloons before Nangka's landfall



UAV winds and waves observations for Nangka

Part 2 :

CMA Emergency Response Under COVID-19



□ Holding the fifth International Training Course on Tropical Cyclone Monitoring and Forecasting with VC system

中国气象局
CHINA METEOROLOGICAL ADMINISTRATION
46 Zhongguancun Nandajie, Beijing 100081, China

Date: 9 November 2020
To: Mr. YU Jixin, Secretary of Typhoon Committee
Fax No.: +853 88010530
From: Mr. ZHOU Heng, Director-General, Department of International Cooperation, CMA
Attachments: 1

Our Ref.: CMA/FI/TC/20-38

Subject: The fifth International Training Course on Tropical Cyclone Monitoring and Forecasting

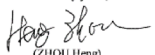
Dear Mr. YU Jixin,

I have the pleasure to inform you that the China Meteorological Administration (CMA) will organize one online International Training Course on Tropical Cyclone Monitoring and Forecasting from 9 to 11 December 2020.

The enrollment information of the course is herewith attached (see Annexes). If you have any comments and suggestions on the course, please directly contact with the focal points of the training course.

It would be highly appreciated if you could make arrangements for the dissemination of the course information among TC Members for their consideration and appropriate actions (1-2 nominations from each Member). Interested Members are invited to submit the nomination information together with the short bio of the nominee to World Meteorological Centre Beijing office (Email: wmo-bj@cma.gov.cn) and WMO Regional Training Center Beijing (Email: gaofeng@cma.gov.cn) on or before the December 4, 2020.

Thank you for your kind assistance.
With my best personal regards,

Sincerely yours,

(ZHOU Heng)

Telephone: +86 10 62172957 Fax: +86 10 62174797 Email: guojj@cma.gov.cn

The training courses(9-11 DEC) will focus on:

- Tropical Cyclone Size and Size Change
- Dvorak Analysis for Storms with Unusual Structure
- Nowcasting Technology in Tropical Cyclone
- Tropical Cyclone Genesis in SCS-Northwest Pacific
- Operational Use of Multiple Satellite data in Typhoon Forecasting
- The Key Operational Technology of QPE and QPF in CMA
- Monitoring, Forecasting and Warning of Tropical Cyclones in South China Sea
- Increasingly Opposing Changes in the Summer and Autumn Tropical Cyclone Genesis Frequencies over the Western North Pacific under Tropical SST Modulations



Thanks a lot for your attention!