

HTAPC Newsletter

Issue 3, March 2024



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- The National Consortium Meeting on Thailand National Emission Inventory (TNEI)

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Stay tune with
more update



HTAPC

Accomplished Activities



Seminar on "Addressing PM_{2.5} in Northeastern Thailand through Research and Innovation"

On March 1, 2024, the National Seminar, hosted by the HTAPC, was successfully held at the Pullman Hotel in Khon Kaen Province. Chaired by **Dr. Wiparat Deeong**, Executive Director of the National Research Council of Thailand (NRCT), the seminar was dedicated to exploring innovative research initiatives aimed at tackling PM_{2.5} pollution in the northeastern Thailand.

The event featured eighteen distinguished invited speakers engaged in the discussions concerning key PM_{2.5} pollution issues and solutions across four crucial topics of 1) Identification of pollution of concerns, 2) Geographical occurrences with the temporal patterns, 3) Mitigation strategies and control measures at the origins, and 4) Integration of PM_{2.5} pollution control and management with climate change mitigation and adaptation efforts.

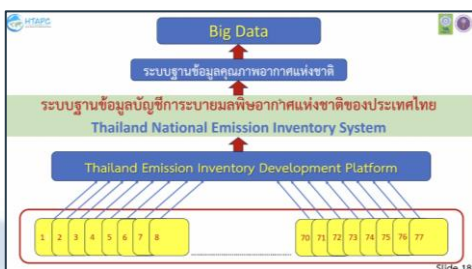
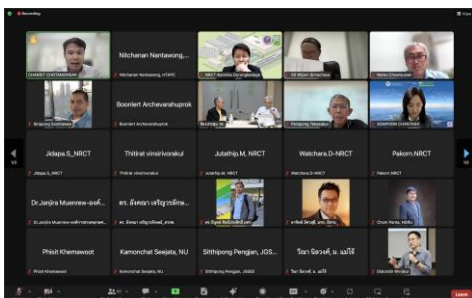
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The National Consortium Initiatives on Thailand National Emission Inventory (TNEI)



On March 21, 2024, HTAPC under the auspices of the NRCT convened to address the urgent issue of developing the Thailand National Emission Inventory (TNEI). The TNEI plays a crucial role as the official database, serving as a vital tool for managing and regulating ongoing air pollution challenges nationwide. The TNEI could effectively provide scientific insights for policymaking and guideline establishment at the national level.

The meeting brought together the HTAPC's members and experts from diverse relevant sectors engaged in constructive discussions and exchanged insights on the key point and challenges of TNEI. Facilitated through an online conference via the Zoom platform.



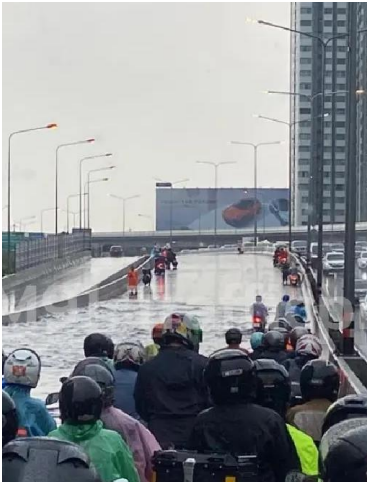
HTAPC Knowledge Dissemination

Thunderstorm Prediction using WRF-Chem Forecasting System



Flooding blocked morning traffic on Ratchaphruek Road in Bangkok

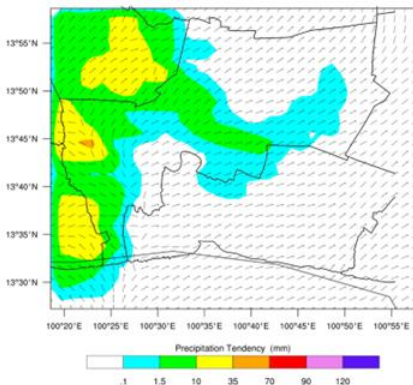
Image: FM91 Trafficpro March 20, 2024



In Thailand, the month of March heralds the arrival of summer. Throughout the nation, temperatures rise, with certain regions reaching highs of up to 40 degrees Celsius. This increase in temperature is frequently accompanied by thunderstorms during the summer months, resulting in notable damages concentrated in specific areas over brief periods.

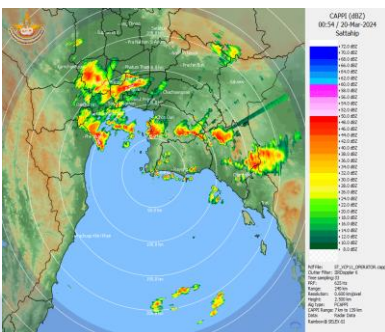
Thunderstorms typically occur during the summer months, notably from March to April, extending until the onset of the rainy season. According to the National Disaster Warning Center, these storms are precipitated by a combination of prolonged hot and humid conditions followed by the intrusion of a cold air mass, commonly referred to as high-pressure air, intersecting with a warm air mass or low-pressure system. When these contrasting air masses collide, atmospheric instability ensues, leading to the formation of thunderstorms characterized by intense winds, torrential rain, lightning, thunder, and occasionally hail.

WRF-Chem Forecasting Precipitation in Bangkok March 20, 2024 03:00 AM LST



CCCACC and HTAPC have initiated a collaborative effort to forecast thunderstorm occurrences in Thailand, focusing on the development of a prediction system designed to anticipate potentially damaging storms. This initiative seeks to enable proactive measures to cope and mitigate the resulting impacts. Among various models explored, the WRF-Chem forecasting system has been employed as a primary tool. CCCACC has rigorously tested a thunderstorm prediction system, fully funded by the National Research Council Thailand (NRCT) and led by **Mr. Sompoke Kingkaew**. With support from the research associate team at the CCCACC, testing of the forecasting system on March 20, 2024, produced promising results. Specifically, between 00:00 and 06:00 hours, the model accurately forecasted rainfall in the lower central region, particularly in Bangkok and its vicinity, with precipitation reaching approximately 35 millimeters per hour, consistent with observations from weather radar.

Weather Radar operated by Department of Royal Rainmaking and Agricultural Aviation March 20, 2024 07:57 AM LST



During that period, the Meteorological Department issued weather warnings indicating that the central area, including Bangkok Metropolitan Region, would experience hot and hazy conditions during the day. Additionally, thunderstorms were predicted to affect approximately 10 percent of the area, accompanied by strong wind gusts, primarily in provinces such as Nakhon Sawan, Uthai Thani, Kanchanaburi, and Ratchaburi. However, it seems the warning underestimated the predicted rainfall for the area and the period of its occurrence.

We cordially invite you to join us

Hub of Talents on Air Pollution and Climate

HTAPC Membership Form for Experts



Official website of Hub of Talents on Air Pollution and Climate (HTAPC)

<https://www.htapc.info>



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