

HTAPC Newsletter

Issue 2, February 2024

Unraveling and Comprehending PM_{2.5} Issue through Research and Innovation

For the Sake of Public Health



Highlight issues

Accomplished activities.....	Page 2
Knowledge dissemination.....	Page 3

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Accomplished Activities

A Seminar on "Addressing PM_{2.5} in Bangkok, Thailand through Research and Innovation"



HTAPC hosted a national seminar titled "Addressing PM_{2.5} in Bangkok, Thailand through Research and Innovation" on December 14th, 2023, at the Novotel Bangkok Future Park Rangsit Hotel in Pathum Thani Province.



Dr. Wiparat Deeong, the Executive Director of the National Research Council of Thailand, delivered the opening remarks, followed by Assoc. Prof. Dr. Sasitorn Taptagaporn, the Dean of the Faculty of Public Health of Thammasat University, delivered the welcoming remarks. The seminar featured 17 speakers who discussed and addressed concerns regarding PM_{2.5} consisted of four major sessions covering topics of the emission sources of PM_{2.5} in agricultural sector control and management, on-road transportation sector management, and air quality monitoring and reporting in Bangkok and its surrounding areas.



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A Seminar on "Addressing PM_{2.5} in Northern, Thailand through Research and Innovation"



On January 30st, 2024, HTAPC arranged a national seminar titled "Addressing PM_{2.5} in Northern Thailand through Research and Innovation", held at the Kong Garden View Resort in Muang District, Chiang Rai Province.



Dr. Wiparat Deeong, Executive Director of the National Research Council of Thailand, initiated the meeting, followed by welcome speeches from Acting Second Lieutenant Sarawut Jantawong, Vice Governor of Chiang Rai Province, and Assoc. Prof. Dr. Sasitorn Taptagaporn, Dean of the Faculty of Public Health (FPH) of Thammasat University, extending a warm welcome to the invited 18 speakers participating in the forum. The speakers addressed concerns regarding PM_{2.5} pollution in four key areas of the sources and origins of PM_{2.5} in the northern Thailand, forest fires and agricultural residue open burning management, and management of cross-border haze pollution.



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Knowledge Dissemination

The Seminar on “Understanding PM_{2.5} for Health and Solutions through Research and Innovation”



On February 16th, 2024, HTAPC and the Hub of Environmental Health, a division under the Ministry of Higher Education, Science, Research, and Innovation, jointly organized a seminar titled "Understanding PM_{2.5} for Health and Solutions through Research and Innovation" at the Conference Room, Building 8, National Research Council of Thailand (NRCT).



Dr. Wiparat Deeong, the Executive Director of the National Research Council of Thailand, delivered the opening speech at the conference. Following that, Assoc. Prof. Dr. Ekbordin Winijkul presented on the origin sources of PM_{2.5}, followed by Dr. Supat Wangwongwatana, who shared perspectives on PM_{2.5} issues, including potential solutions. In addition to the seminar, Assoc. Prof. Dr. Boonrat Tassaneetrithep discussed the health effects of PM_{2.5} and healthcare strategies.

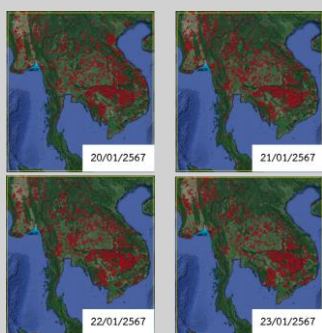
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Addressing concerns regarding hotspots in neighboring countries that could contribute to the PM_{2.5} issue in Bangkok



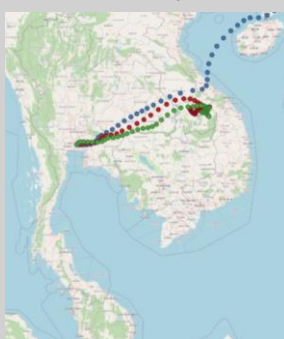
In January 2024, the concentration of PM_{2.5} in Bangkok exceeded the standard, triggering concerns across various sectors regarding the its origins. Consequently, CCCACC and HTAPC conducted an analysis utilizing mathematical models of WRF-Chem and HYSPLIT, along with hotspot data, to determine the origin sources of PM_{2.5}. It was found that during the period, hotspots from biomass open burning were detected by satellites in several areas, particularly in central, northeastern, and western regions of Thailand, as well as neighboring countries. The results from the mathematical models revealed that PM_{2.5} from these hotspots in neighboring countries could drift into northeastern Thailand before reaching Bangkok. Initial analysis suggested that approximately 21% of the overall intensity of PM_{2.5} originated from neighboring countries, while domestic sources could similarly contribute a high proportion.

Spatial Distribution of Hotspots



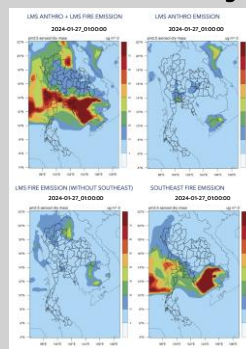
Hotspots detected by MODIS and VIIRS sensors during January 20-23, 2024

HYSPLIT Trajectory



The air mass backward trajectory affecting the levels of PM_{2.5} during the period of January, 2024

WRF-Chem Modeling



The hourly PM_{2.5} concentrations contributed from different sources on January 27, 2024 at 01:00 AM (LST)

We cordially invite you to join us

Hub of Talents on Air Pollution and Climate

Register HTAPC Membership for Experts



Official website of HTAPC

<https://www.htapc.info>



This newsletter is a part of
the **Hub of Talents on Air Pollution and Climate Project** funded by
National Research Council of Thailand (NRCT)



Monthly Newsletter

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