

AIR QUALITY MONITORING

SUMMARY:

Hazards from air quality has been rising alarmingly across Asia. At FECT, we are helping understand the risks by undertaking monitoring, relating it to weather and climate, modeling and diagnosis and impact analysis. FECT has setup air quality monitoring devices in seven locations around Sri Lanka and in Maldives. We obtain real-time data through these instruments and carryout monitoring and analysis based on these data.

Foundation for Environment, Climate, and Technology [FECT] | Disaster Services [DS]

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INTRODUCTION:

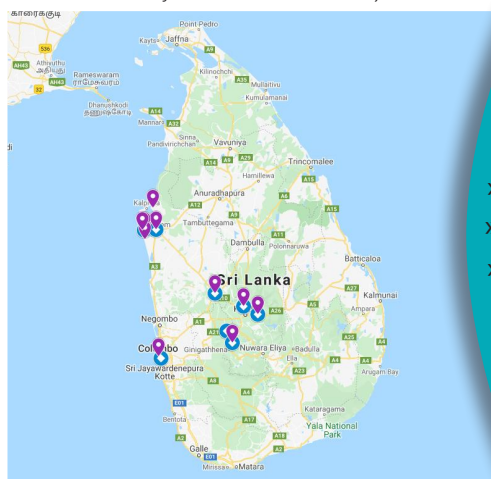
Air quality in Sri Lanka has been worsening due to the rapid rise in emissions of particulate matter and noxious gases from vehicular traffic, industrial emissions particularly from thermal power plants, rapid urbanization and trans-boundary transport of atmospheric contaminants. While vehicular emissions is important within urban locations, the larger industries are important for the rural areas.

Our work on air quality focuses on analyzing the transportation of pollutants by installing air quality monitoring instruments and monitoring the data obtained from these instruments.

Our research in informing air pollution policy has been undertaken by diagnosis of all available data, monitoring in critical locations, and in urban settings and modeling air pollution transport. This research has informed the current debate on the choice of coal power plants or renewable energy for future electric grid capacity expansion via the newspapers, social media and a Fundamental Rights submission to the Supreme Court by farmers, fisher folks and villagers affected by the only coal plant in place at present.

The US Embassy has hosted our Air Quality instruments for calibration next to their EPA certified instruments in Colombo. We have provided the results in the public domain.

Locations of the Instruments Fixed by FECT



 Weather Stations  Air Quality Instruments

AIR QUALITY INSTRUMENTS In Sri Lanka

- » Akurana
- » Norochcholai
- » Nawalapitiya
- » Puttalam
- » Illanthandiya
- » Colombo
- » Digana
- » Nirmalapura
- » Serakkuliya
- » Kurunegala

Purple Air and AirVisual devices being IoT devices can transfer real-time data which can be monitored online and is stored using the weather underground cloud service.



AirVisual Instrument Fixed at the US Embassy, Colombo

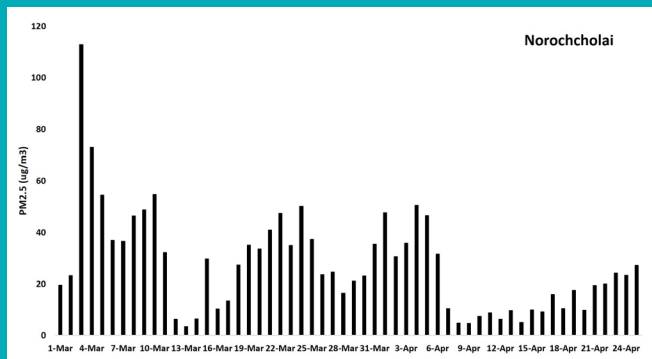


Purple Air Instrument Fixed at the US Embassy, Colombo

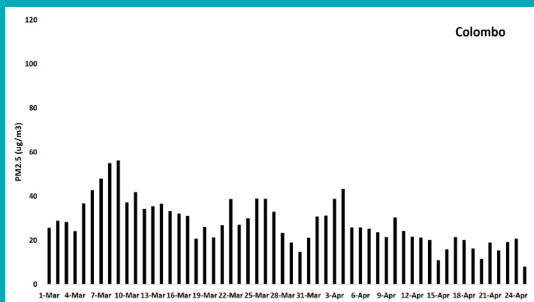
Our Purple Air and AirVisual devices were first calibrated with a higher quality that is certified – BAM device compare adequately in terms of magnitude and variations



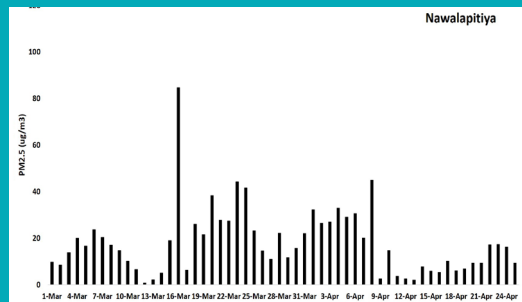
DIAGNOSIS AND MODELING



Daily PM2.5 observations at Norochcholai for March and April, 2018

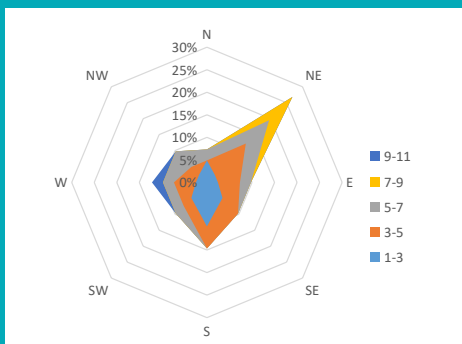


Daily PM2.5 observations at Colombo for March and April, 2018

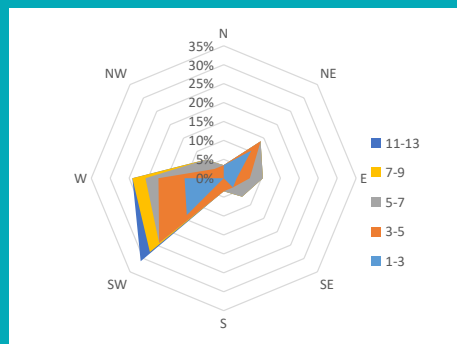


Daily PM2.5 observations at Nawalapitiya for March and April, 2018

We are analyzing the relationships between emissions from Norochcholai and Colombo and its transport to the hills. We have analyzed the spatial variation in Kandy, Akurana and Puttalam.



Wind roses from Kurunegala located within the triangle of these sites for March 2018 (left) and for April (right) 2018.



ABOUT FECT

Foundation for Environment, Climate and Technology was established to promote environmental and climate technology and its applications in multiple fields. FECT builds on the work of the officers in Sri Lanka and internationally. Our work is oriented towards developing useable scientific and technological information that can be applied by users in diverse sectors. We work actively with other Sri Lankan partners in Government institutions, Research Institutes, and Universities.

ONLINE ACCESS TO OUR AIR QUALITY WORK:

www.disaster.lk/airquality
www.climate.lk

IMPACT ANALYSIS

Our partners and us are undertaking field work to estimate ecological and health consequences of air pollution.

