



**GOVERNMENT OF PUDUCHERRY  
PUDUCHERRY POLLUTION CONTROL COMMITTEE**

**EIACP HUB NEWSLETTER**

Status of Environment & Related Issues in Puducherry

**STATUS OF AMBIENT AIR QUALITY IN THE U.T  
OF PUDUCHERRY FOR THE YEAR 2021**

**VOLUME XIII-II**

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**Sponsored by  
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Government of India,  
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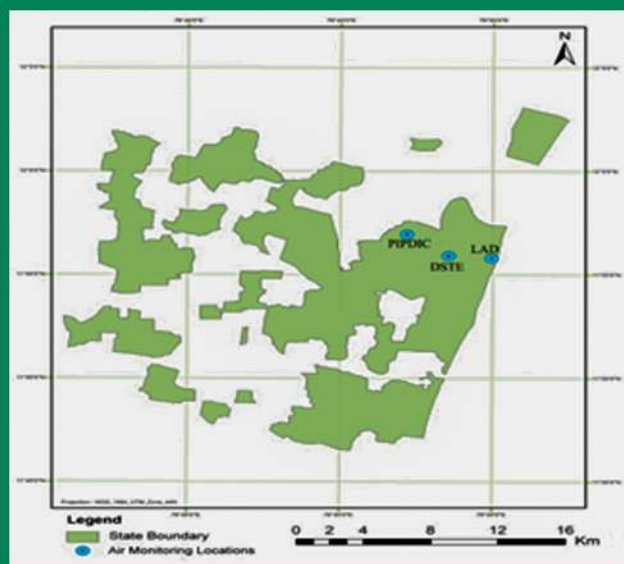


# Introduction

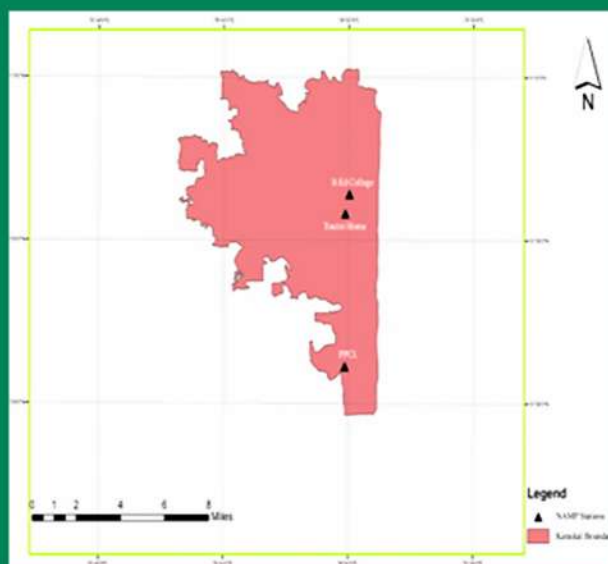
Puducherry Pollution Control Committee is carrying out manual ambient air quality monitoring at the following Six locations in the U.T. of Puducherry under the 'National Air quality Monitoring Programme' (NAMP) of Central Pollution Control Board (CPCB). The monitoring of pollutants is carried out for 24 hours (4-hourly sampling for gaseous pollutants and 8-hourly sampling for particulate matter) with a frequency of twice a week.

## LOCATION OF NAMP STATIONS

Sl. No.	Location Name	Location Type	Source of Pollution
1.	Local Administrative Department Building (LAD), Suffren Street, Puducherry.	Residential area	Vehicle emission and natural dust from road
2.	Department of Science Technology and Environment Building (DSTE), Anna Nagar, Puducherry.	Residential cum Commercial area	Vehicle emission and natural dust from road
3.	Electricity Department, Mettupalayam Industrial Estate (PIPDC), Puducherry.	Industrial area	Industrial Pollution and vehicular pollution.
4.	B.Ed. College, Nehru Nagar, Karaikal	Residential area	Vehicle emission and natural dust from road
5.	Govt. Guest House, Kovilpathu, Karaikal	Residential cum Commercial area	Vehicle emission and natural dust from road
6.	PPCL, Polagam, T.R. Pattinam, Karaikal	Industrial area	Industrial Pollution and vehicular pollution.



PUDUCHERRY



KARAIKAL

## Air Pollutants Monitored Under NAMP, Method of Measurement, their Sources and Effects

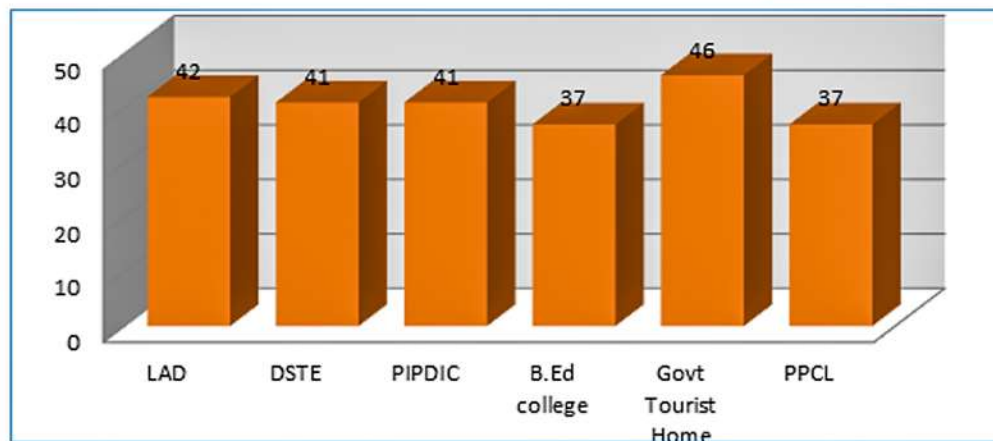
Sl. No.	Air Pollutant	Method of Measurement	Possible sources	Effects
1.	Particulate Matter – PM <sub>10</sub> (size less than 10 microns)	Gravimetric	Road traffic emissions particularly from diesel vehicles Industrial combustion plants Commercial and residential combustion.	Visibility reduction cardio-pulmonary problems asthma, bronchitis, and pneumonia in neonates and older peoples.
2.	Nitrogen dioxide	Improved West and Gaeke method	High temperature combustion (internal combustion engines, fossil fuel-fired power stations, industrial) Burning of Bio-mass and Fossil Fuels.	Irritates the nose and throat increase susceptibility to respiratory infections
3.	Sulphur di Oxide	Modified Jacob and Hochheiser	Combustion of fossil fuel.	Respiratory illness. Visibility impairment.

## Annual average Concentration of Pollutants at the six monitored locations in the U.T. of Puducherry for the year 2021

Sl.No.	Location	Pollutant in µg/m <sup>3</sup>		
		PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>2</sub>
1.	LAD	42	2.7	9.2
2.	DSTE	41	3.3	10.2
3.	PIPDIC	41	3.4	9.7
4.	B.Ed college	37	2.0	4.8
5.	Govt. Tourist Home	46	2.2	5.1
6.	PPCL	37	2.0	4.7
	<b>Annual Standard</b>	<b>60</b>	<b>50</b>	<b>40</b>

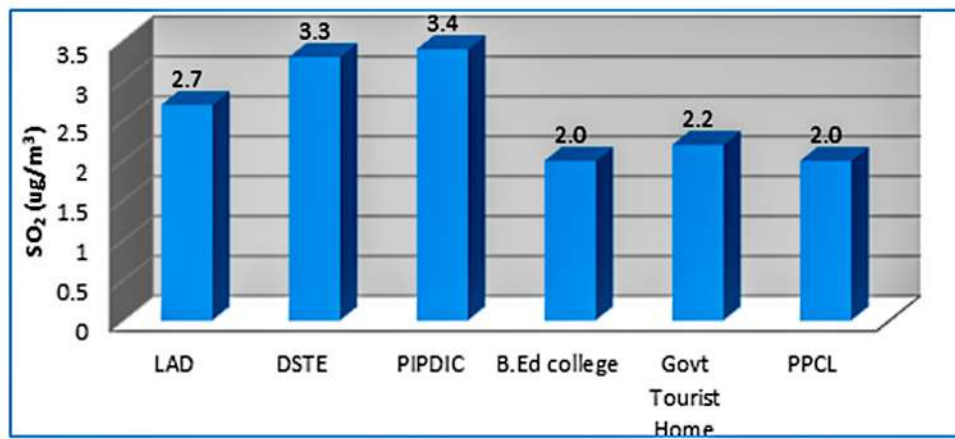
**Annual Average - PM<sub>10</sub> µg/m<sup>3</sup>**

**Standard 60**



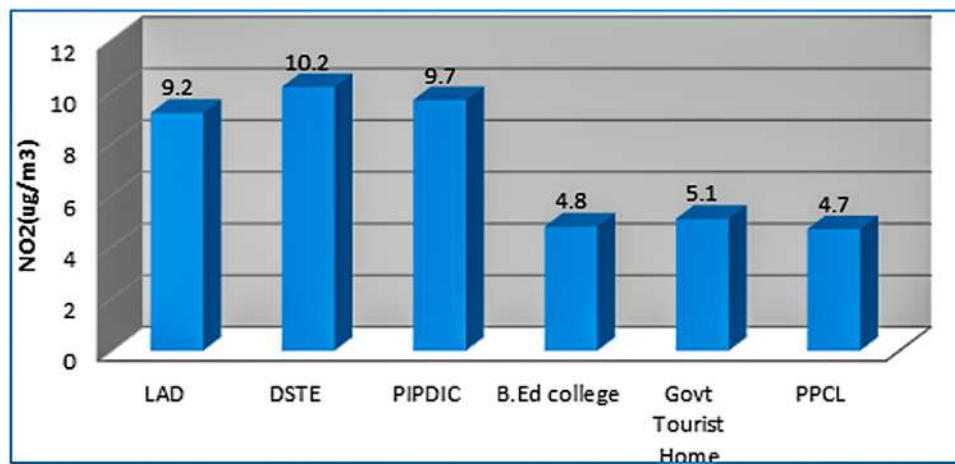
**Annual Average - SO<sub>2</sub> µg/m<sup>3</sup>**

**Standard 50**



**Annual Average - NO<sub>2</sub> µg/m<sup>3</sup>**

**Standard 40**



## Observation and Results:

- The monitored result reveals that 24 Hourly average concentration of Particulate Matter (Size less than 10  $\mu\text{m}$ ) -  $\text{PM}_{10}$  measured in all the six locations are within the prescribed standard limit of 100  $\mu\text{g}/\text{m}^3$ .
- Annual average concentration of  $\text{PM}_{10}$  measured in all the six locations are in the ranges from 37 – 46 ( $\mu\text{g}/\text{m}^3$ ) which is within the prescribed standard limit of 60  $\mu\text{g}/\text{m}^3$ .
- The annual average concentrations of the pollutants viz.,  $\text{SO}_2$  &  $\text{NO}_2$  in all the six locations are within the prescribed standard limit. One of the reasons for low levels of pollution in coastal cities like Puducherry is that it has excellent ventilation effects due to sea and land breezes which reduces pollution levels to an extent.

## Air Quality Index:

Air Quality Index is a tool for effective communication of air quality status to people in terms, which are easy to understand. It transforms complex air quality data of various pollutants into a single number (index value), nomenclature and colour.

There are six AQI categories, namely Good, Satisfactory, Moderately polluted, Poor, Very Poor, and Severe. Each of these categories is decided based on ambient concentration values of air pollutants and their likely health impacts (known as health breakpoints). Health Breakpoint concentrations for each of the pollutant vary with reference to the AQI category. The sub-indices for individual pollutants are calculated using its 24-hourly measured average concentration value of a pollutant and health breakpoint concentration range. The sub-index is a linear function of concentration of a particular pollutant (for example, the sub-index for  $\text{PM}_{2.5}$  will be 51 at concentration 31  $\mu\text{g}/\text{m}^3$ , 75 at concentration of 45  $\mu\text{g}/\text{m}^3$  and 100 at concentration 60  $\mu\text{g}/\text{m}^3$ ).

AQ sub-index and health breakpoints are evolved for eight pollutants ( $\text{PM}_{10}$ ,  $\text{PM}_{2.5}$ ,  $\text{NO}_2$ ,  $\text{SO}_2$ ,  $\text{CO}$ ,  $\text{O}_3$ ,  $\text{NH}_3$ , and Pb) for which short-term (upto 24-hours) National Ambient Air Quality Standards are prescribed. The worst sub-index among the computed parameters is responsible for the index for that location. All the eight pollutants may not be monitored at all the locations. Overall AQI is calculated only if data are available for minimum three pollutants, out of which one should necessarily be either  $\text{PM}_{2.5}$  or  $\text{PM}_{10}$ .

### Status of Category-wise numbers of AQI in the UT of Puducherry for the year 2021

AQI Category	AQI Range $\mu\text{g}/\text{m}^3$	Colour Code	Number of AQI Values in different category		Pollutant-wise number of AQI values in AQI category	Possible Health Impacts
			No of AQI Values	% of AQI Values	$\text{PM}_{10}$	
Good	0-50		377	76.5	377	Minimal Impact
Satisfactory	51-100		116	23.5	116	Minor Breathing discomfort to sensitive people
Total AQI Values			493	100	493	

**Note:-** One observation means one AQI Calculated for daily ambient air quality data at one station.

## National Air Quality Index

AQI	Possible Health impacts
Good (0-50)	Minimal Impact
Satisfactory (51 - 100)	Minor Breathing discomfort to sensitive people
Moderate (101 - 200)	Breathing discomfort to the people with lung, heart disease, children and older adults
Poor (201 -300)	Breathing discomfort to people on prolonged exposure
Very Poor (301-400)	Respiratory illness to the people on prolonged exposure
Severe (>400)	Respiratory effects even on healthy people

### Overall summary

The result reveals that 76.5 % of AQI value i.e. 377 AQI values in the U.T of Puducherry out of total 493 AQI values revealed good air quality 23.5 % of AQI value i.e. 116 AQI values showed satisfactory air quality . The Prominent parameter is  $PM_{10}$ .

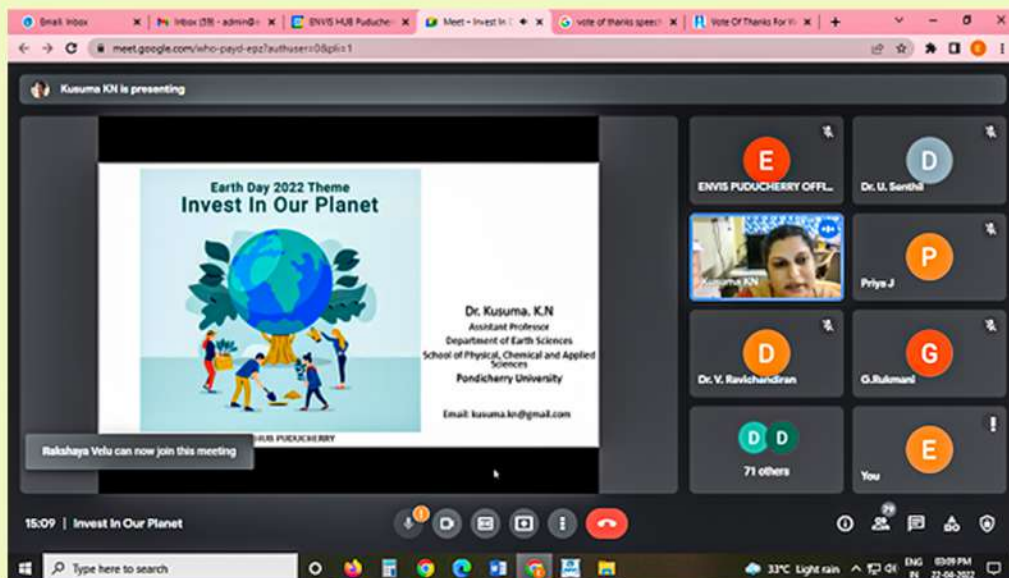
### Conclusion

The overall AQI can give clear view about ambient air and the report reveals that  $PM_{10}$  is mainly responsible to determine the air quality which can be easier for a common man to understand. The  $PM_{10}$  concentration in the Puducherry and Karaikal region is resulted predominantly from the anthropogenic activity, which may be due to the increase in vehicle movement, road dust etc.

### Broad guidelines for Public/Citizens:

AQI is an initiative intended to enhance public awareness and involvement in efforts to improve air quality. People can contribute by maintaining vehicles properly (e.g. get PUC checks, replace car air filter, maintain right tyre pressure), following lane discipline & speed limits, avoiding prolong idling and turning off engines at red traffic signals. In addition to above, during severe or very poor AQI, people should minimize travel; avoid using private vehicles and instead use public transport, e-vehicles or walk, and carpool.

## EARTH DAY



Webinar was conducted on the occasion of Earth Day on 22.04.2022, wherein Dr. Kusuma. K.N., Assistant Professor, Department of Earth Science, Pondicherry University, Puducherry delivered talk on Invest in Our Planet.

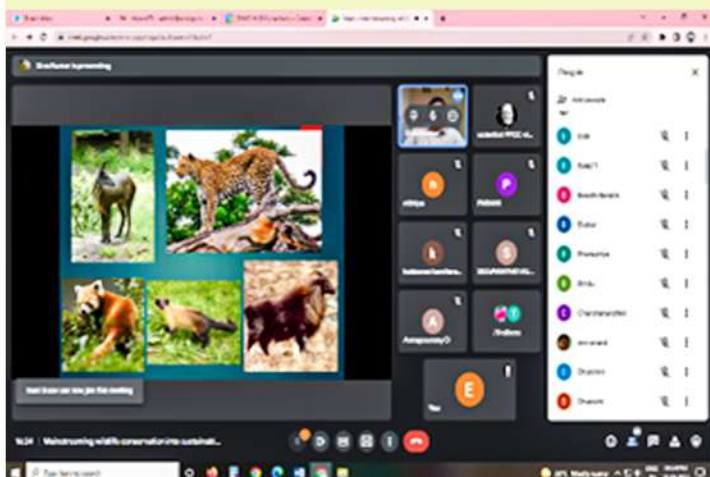
### EXPO ON ENVIS INFOGRAPHIC PRODUCTS & ALTERNATE PRODUCTS OF SINGLE USE PLASTIC AT EDEN BEACH ON 22.04.2022 TO 24.04.2022.



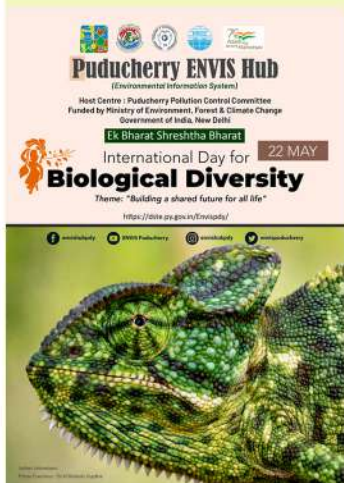
On the occasion of Earth Day, Puducherry ENVIS Hub exhibits Value added knowledge products and alternate products of Single Use Plastics at Eden Beach, Puducherry. The ENVIS Team also interacted with public and also took their views and suggestions/comments.

# INTERNATIONAL DAY FOR BIOLOGICAL DIVERSITY, 2022

Dr. K. Sivakumar, Professor, Department of Ecology and Environmental Sciences, School of Life Sciences, Pondicherry University delivered lecture on '**Mainstreaming wildlife conservation into sustainable development in India**' on the occasion of International Day for Biological Diversity on 23.05.2022. He highlighted the potential impacts, Indian Marine Ecosystem and the way to conserve biodiversity.



## AWARENESS POSTERS & PAMPHLET



# WORLD ENVIRONMENT DAY

Department of Science, Technology & Environment, Puducherry Pollution Control Committee (PPCC) along with ENVIS Hub and Puducherry Climate Change Cell (PCCC) organized the following activities from 02.06.2022 to 05.06.2022 on the occasion of World Environment Day.

## Various activities undertaken during the event:



### Competitions

The Department of Science, Technology and Environment, Puducherry Pollution Control Committee, Government of Puducherry along with Puducherry ENVIS Hub & Puducherry Climate Change Cell has conducted various competition viz., Poem Writing (English & Tamil), Slogan Writing (English & Tamil), Drawing and Quiz Competition through online from 02.06.2022 to 04.06.2022 for schools students and general public on the theme 'Only One Earth'. Cash Prizes and Certificates were distributed to the winners in a public function presided by the Hon'ble Chief Minister at Kamban Kalai Arangam, Puducherry on 05.06.2022.



### Mangrove Lagoon Clean-up & Tree Plantations

On 05.06.2022, a clean-up activity has organised in the Mangroves located at Thengaithittu lagoon near Art and Craft Village, Murungapakkam with involvement of NGOs. The activity involves cleaning of plastic wastes and other litters that choaks the Mangrove roots. 3.5 tonnes of waste has been collected. Tree Plantation was also carried out at Art and Craft Village, Murungapakkam and Women Polytechnic, Lawspet, Puducherry.



### Public Function at Kamban Kalai Arangam, Puducherry

On 05.06.2022, a Public Function has presided by the Hon'ble Chief Minister of Puducherry Thiru. N. Rangasamy was organised at Kamban Kalai Arangam, Puducherry. The following events were taken place:

- Release of Environmental Survey Report 2021- 22.
- Distribution of Cloth Bags under Swachta Action Plan.
- Release of Single use Plastic (SUP) Ban Stickers.
- Handing over of Automatic Sanitizers and Non-Chlorinated Biomedical Waste bags to Health Department.
- Distribution of prizes to winners of various competitions.
- Flag off of Environmental Awareness LED Display Van.





### Tamil Pattimandram

During the function, Tamil Debate was organized by this Department. It was chaired by renown Tamil orator Kalaimamani. Solomon Pappaiah and his team on the topic 'Major Role in Environment Protection is by Public (or) Government?'.



### Selfie Point on Only One Earth

Puducherry ENVIS Hub has installed a selfie point model on Only One Earth at Kamban Kalai Arangam and Eden Beach, Chinnaveerampattinam, Puducherry. Public visited selfie point and taken their photographs.

## WORLD OCEAN DAY

On the occasion of World Oceans Day celebration, Puducherry ENVIS Hub organized the various awareness activities at Eden Beach, Chinnaveerampattinam, Puducherry on 08.06.2022 for students of Vudhavikarungal Samuganala Thodar Kalvi Iyakkam Boys and Girls Home, Puducherry.

### Various activities undertaken during the event:



### Competitions

Puducherry ENVIS Hub has conducted Elocution and Drawing Competition at Eden Beach, Chinnaveerampattinam, Puducherry on 08.06.2022 for students of Vudhavikarungal Samuganala Thodar Kalvi Iyakkam Boys and Girls Home, Puducherry on the theme 'Save Ocean from Pollution'. Smt. Smitha. R, I.A.S., Chairperson-cum-Member Secretary, PPCC distributed prizes to the winners participated in Elocution and Drawing Competition towards the said event.



### Special Talk on Revitalization: Collective Action for the Ocean

Dr. Suresh, Scientific Officer Grade - II from National Institute of Ocean Technology delivered expert talk on "Revitalization: Collective Action for the Ocean." on the occasion of World Ocean Day on 08.06.2022.



### Tree Plantation at coastal line of Eden Beach

Chief guest and ENVIS Coordinator planted tree sapling at the seashore.



### Selfie Point of Save Our Sea

Puducherry ENVIS Hub has installed a selfie point model on Save our Sea at Eden Beach, Chinnaveerampattinam, Puducherry. Public visited selfie point and taken their photographs.



### Infographics Release

Awareness Poster and Brochure were released during the occasion to spread the message about conservation of ocean ecosystem.

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