



GOVERNMENT OF PUDUCHERRY

Puducherry Pollution Control Committee

State of Environment & Related Issues in Puducherry

ENVIS HUB NEWSLETTER



Volume X-II

Apr – Jun, 2019

STATUS OF WATER QUALITY IN THE U.T OF
PUDUCHERRY FOR THE YEAR 2018

Sponsored by
Ministry of Environment, Forest & Climate Change
Government of India,
New Delhi

Status of Water Quality in the U.T. of Puducherry

Department of Science, Technology & Environment / Puducherry Pollution Control Committee has been monitoring Water quality periodically at various locations with financial assistance from Central Pollution Control Board under National Water Quality Monitoring Programme (NWMP). Monitoring is done on quarterly basis in surface water bodies in Puducherry and Karaikal regions, annually in Mahe and Yanam regions and during pre and post monsoon in the case of ground water.

Objectives of Water Quality Monitoring

The water quality monitoring is performed with following main objectives:

- To Understand the nature and extent of pollution control and measures required.
- To Evaluate the extend of pollution control required and effectiveness of pollution control measures already in existence.
- To assess water quality trends over a period of time.
- To assess assimilative capacity of a water body thereby reducing cost on pollution control.
- To Understand the environmental fate of different pollutants.
- To assess the fitness of water for different uses.

Newly Included Water Quality Monitoring Stations in U.T. of Puducherry

The following four new stations have been included in water quality monitoring network under NWMP during the year 2018 and monitoring initiated.

Station Code	Location	Type	Latitude	Longitude	Date of Inception
4631	Thirukkanur	Borewell	11° 59'28.03"N	79° 38'23.07"E	Sep-19
4632	Madukarai	Borewell	11° 52'17.07"N	79° 36'13.35"E	Sep-19
4633	Panithittu	Borewell	11° 49'46.19"N	79° 48'11.50"E	Sep-19
4634	Kanagan Lake	Lake	11° 56'18.76"N	79° 47'52.91"	7/1/2019

LIST OF WATER QUALITY MONITORING STATIONS

Station code	Location	Type	Latitude	Longitude	Date of Inception
Puducherry					
1396	Ousteri	Lake	11° 57'01.9" N	79° 44'47.7" E	11/1/1990
1397	Krishna Nagar	Borewell	11° 57'10.88" N	79° 49'12.68" E	11/1/1990
1398	Thengaithittu	Borewell	11° 54'37.24" N	79° 49'03.10" E	11/1/1990
1453	Muthirappalayam	Borewell	11° 56'17.26" N	79° 46'47.73" E	1/1/1992
1454	Pondicherry University, Kalapet	Borewell	12° 10'01.43" N	79° 51'02.74" E	1/1/1992
1688	Katterikuppam	Borewell	12° 00'17.03" N	79° 42'02.92" E	15-05-02
1686	Bahour	Lake	11° 49'47.8" N	79° 44'35.3" E	15-05-02
1687	Chetty Koil, Mission Street	Openwell	11° 56'12.9" N	79° 49'51.7" E	15-05-02
1689	Chunnambar	River	11° 52'59.9" N	79° 47'57.0" E	15-05-02
2009	Kurumbapet	Borewell	11° 55'49.81" N	79° 45'41.50" E	16-05-06
2010	Mettupalayam	Borewell	11° 56'35.64" N	79° 47'07.64" E	15-05-06
2011	Uruvaiyar	Borewell	11° 53'29.45" N	79° 45'06.95" E	15-05-06
2012	Maruthi School, Karuvadikuppam	Borewell	11° 58'04.79" N	79° 49'02.03" E	15-05-06
3882	Echankadu, Kirumambakkam	Borewell	11° 49'17.29" N	79° 47'46.42" E	12/9/2017
3883	Nearby Lake, Bahour	Borewell	11° 48'42.87" N	79° 44'44.77" E	12/9/2017
3884	Chevalier Sellane Government Higher secondary school, Kalapet	Borewell	12° 02'16.88" N	79° 51'56.60" E	11/9/2017
3885	Dhanderar Kulam, Sedarapet	Borewell	11° 59'25.5" N	79° 45'19.0" E	12/9/2017
3886	Kothapurinatham, Thiruvandarkoil	Borewell	11° 55'49.8" N	79° 39'42.1" E	12/9/2017
Karaikal					
1685	Arasalar	River	10° 54' 562" N	79° 49' 066" E	15-05-02
2013	T.T.Pattinam	Borewell	10° 50' 485" N	79° 49' 918" E	16-05-06
2014	Vadamattan	Borewell	11° 56' 773" N	79° 49' 771" E	16-05-06

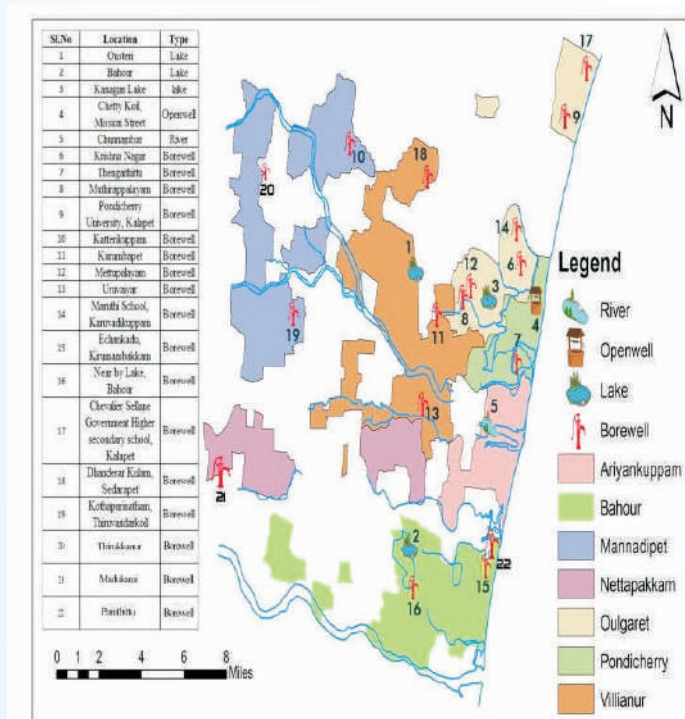
Yanam

2442	Gowtami-Godavari River Near Balayogi Bridge	River	16° 72' 597" N	82° 20' 216" E	7/1/2009
2443	Gowtami-Godavari Near Adavipolam	River	16° 71' 519" N	82° 26' 518" E	7/1/2009
2444	Gowtami-Godavari Coringa River (Tidal Lock)	River	16° 73' 000" N	82° 21' 747" E	7/1/2009

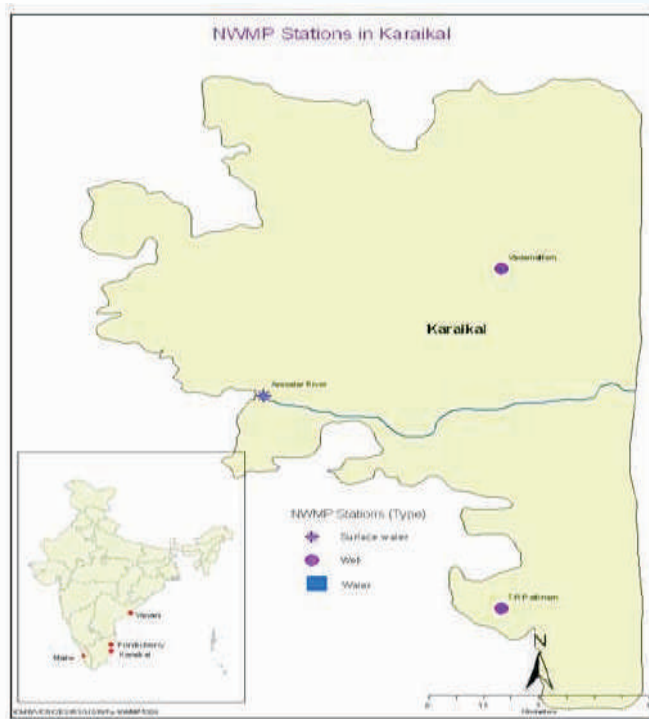
Mahe

2445	Mahe River	River	11° 42' 275" N	75° 32' 594" E	7/1/2009
2446	Pallur	Openwell	11° 43' 960" N	75° 32' 460" E	7/1/2009
2447	Panthakkal	Openwell	11° 45' 123" N	75° 32' 284" E	7/1/2009

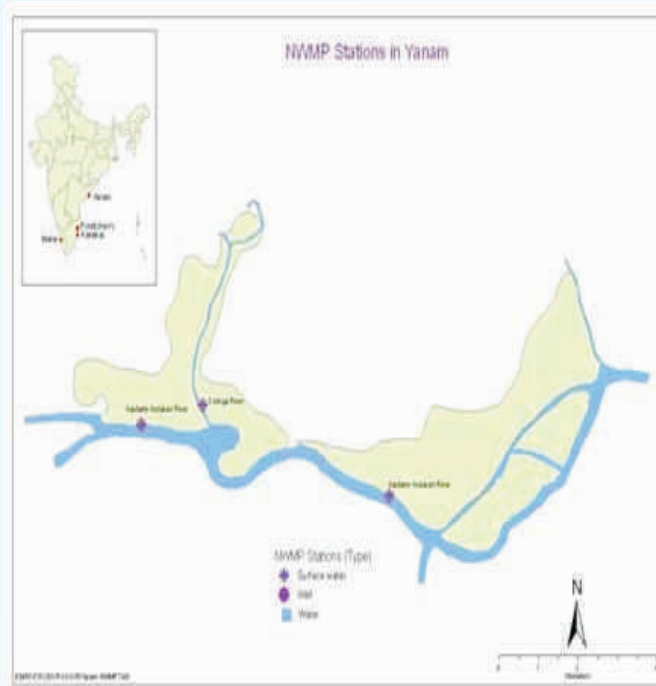
Puducherry



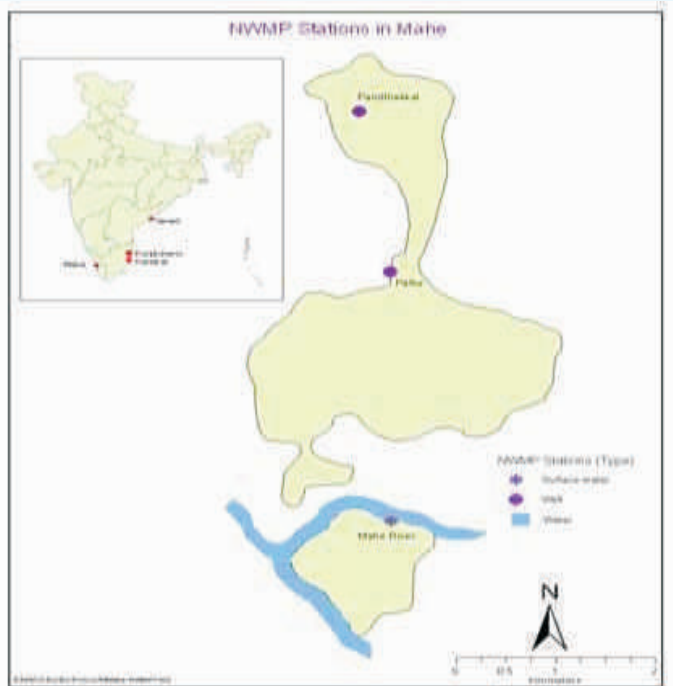
Karaikal



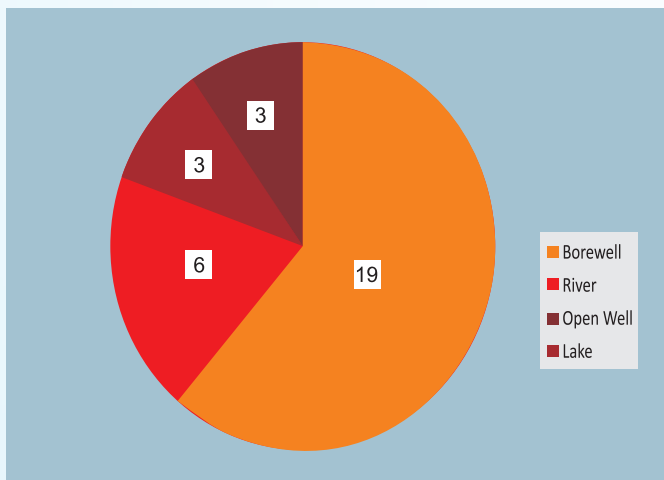
Yanam



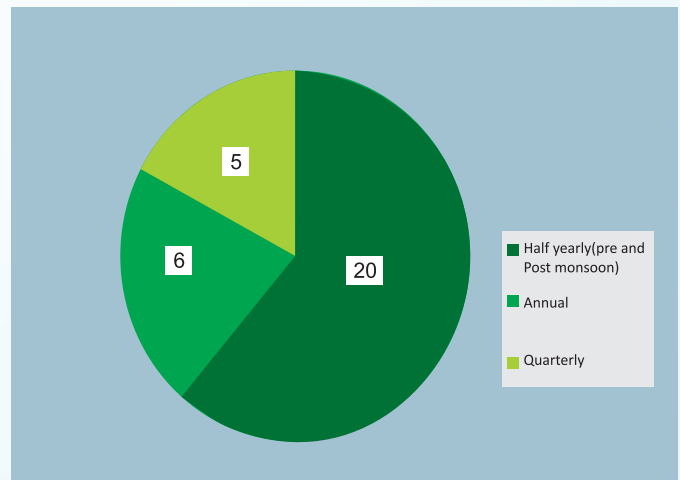
Mahe



Waterbody wise Number of Stations



Frequency wise Water Quality Monitoring Station (in numbers)



Status of Water Quality in Surface Water

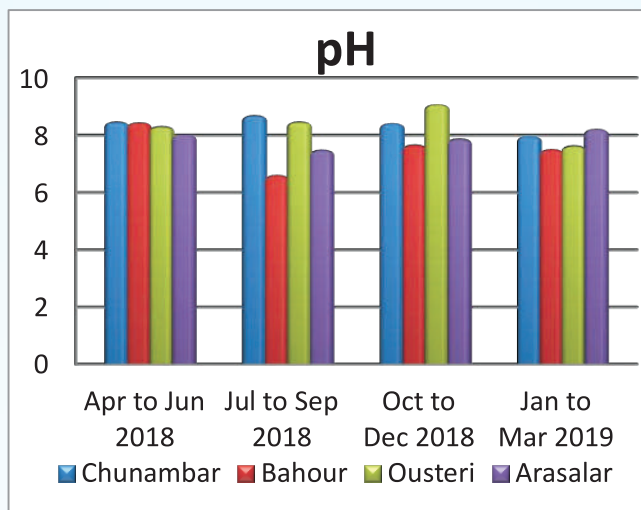


Fig 1.0 pH

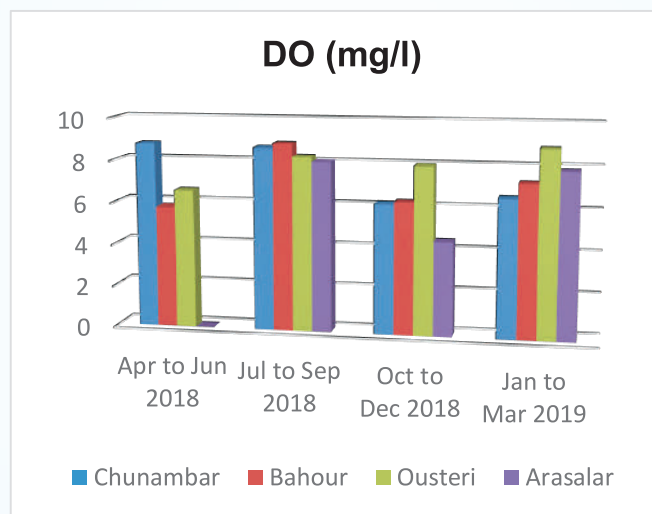


Fig 1.1 DO (mg/l)

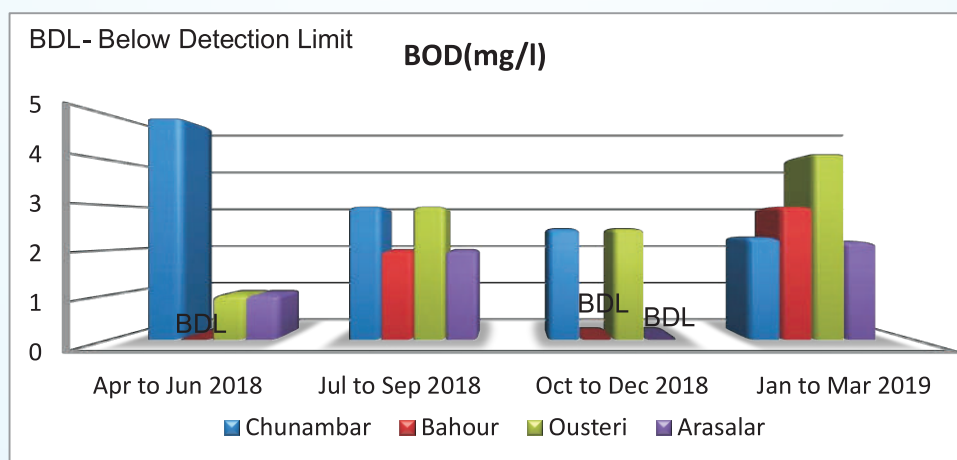


Fig 1.2 BOD (mg/l)

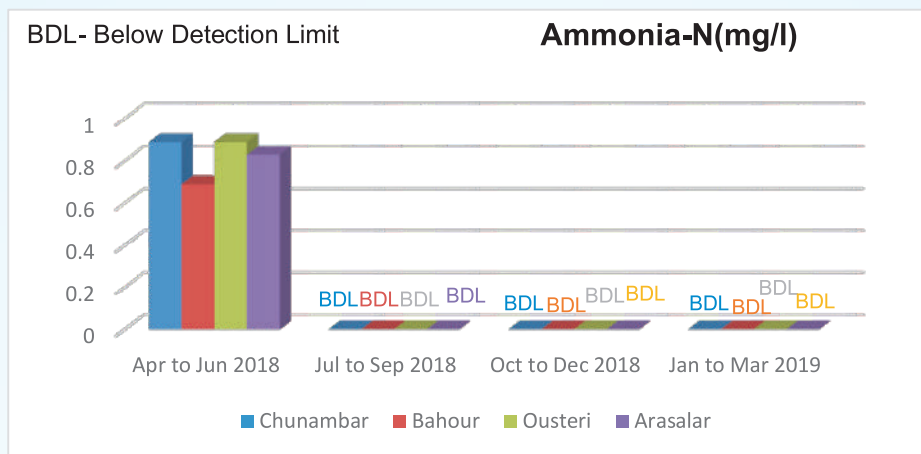


Fig 1.3 Ammonia-N(mg/l)



Fig: Water Sampling under NWMP at Bahour Lake

Status of Water Quality in Borewell

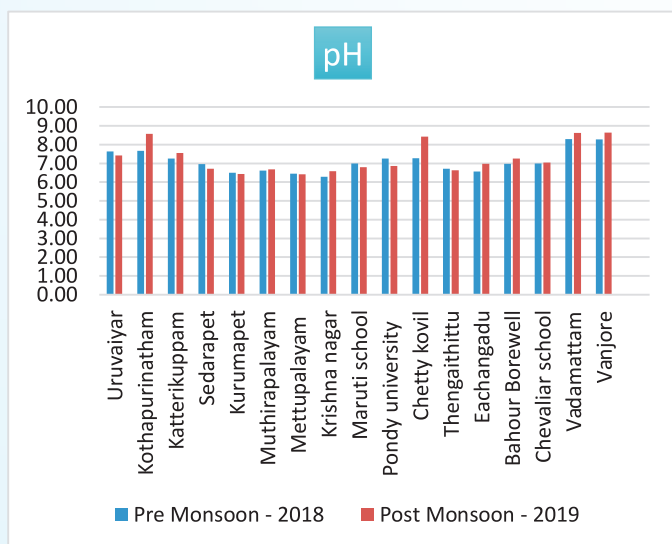


Fig 2.0 pH

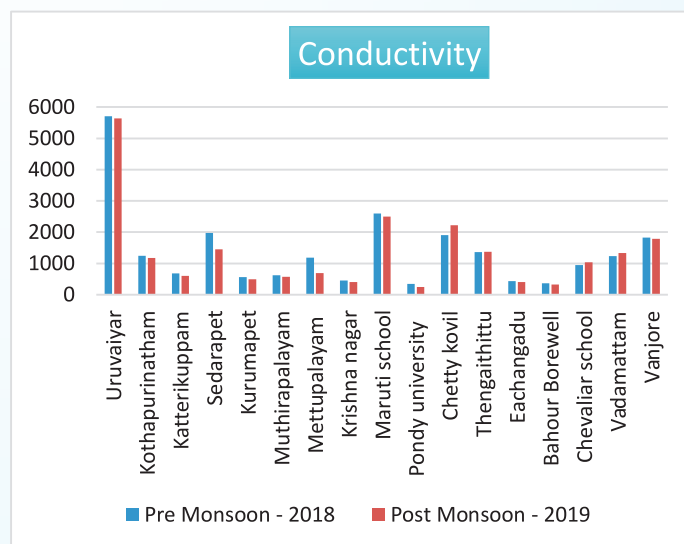


Fig 2.1 Conductivity (mg/l)

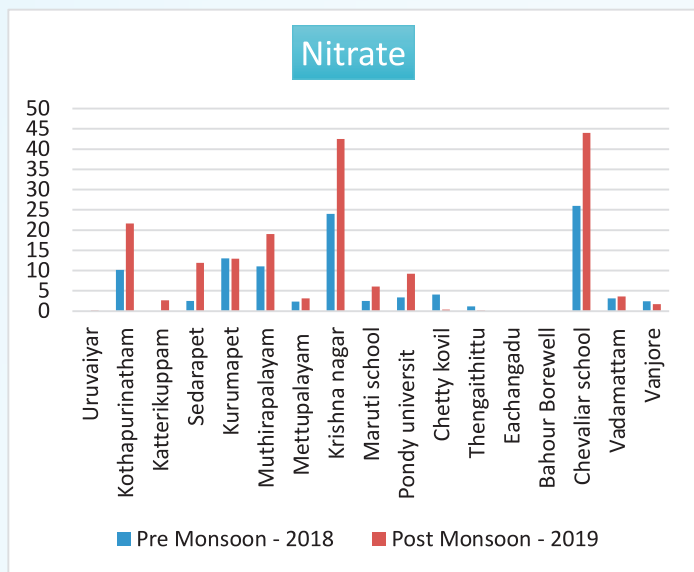


Fig 2.2 Nitrate(mg/l)

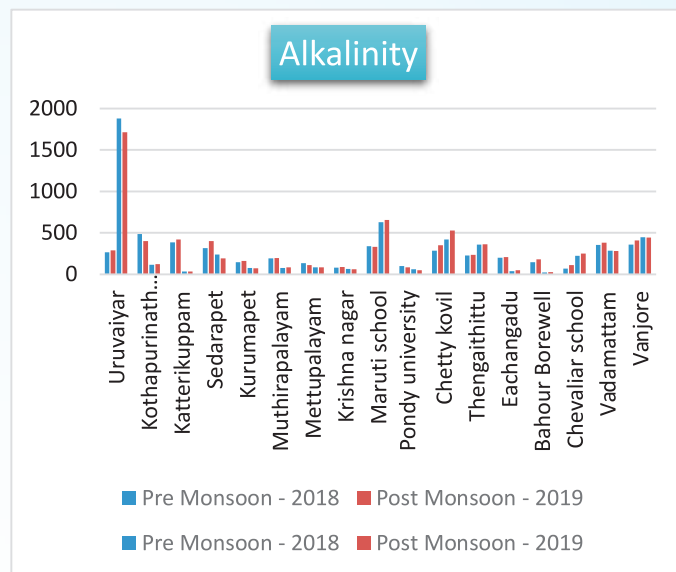


Fig 2.3 Alkalinity(mg/l)

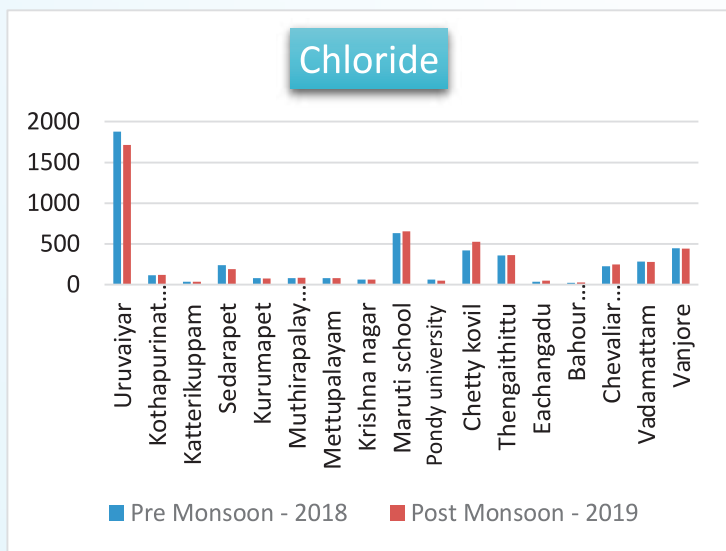


Fig 2.4 Chloride(mg/l)

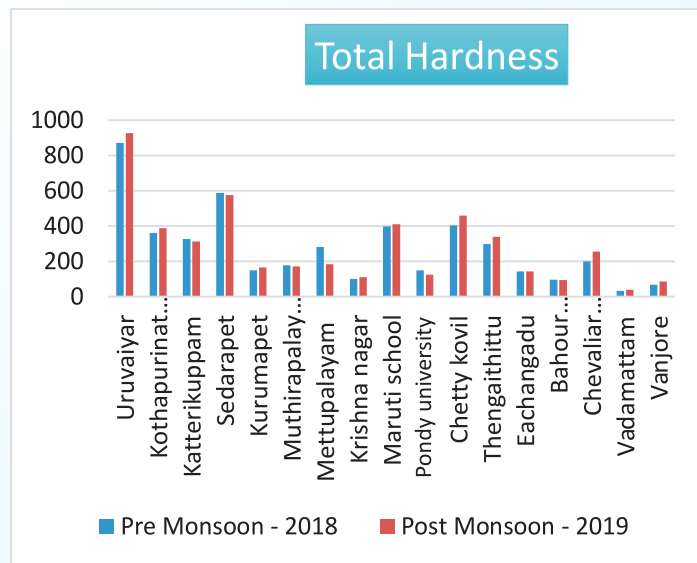


Fig 2.5 Total Hardness(mg/l)

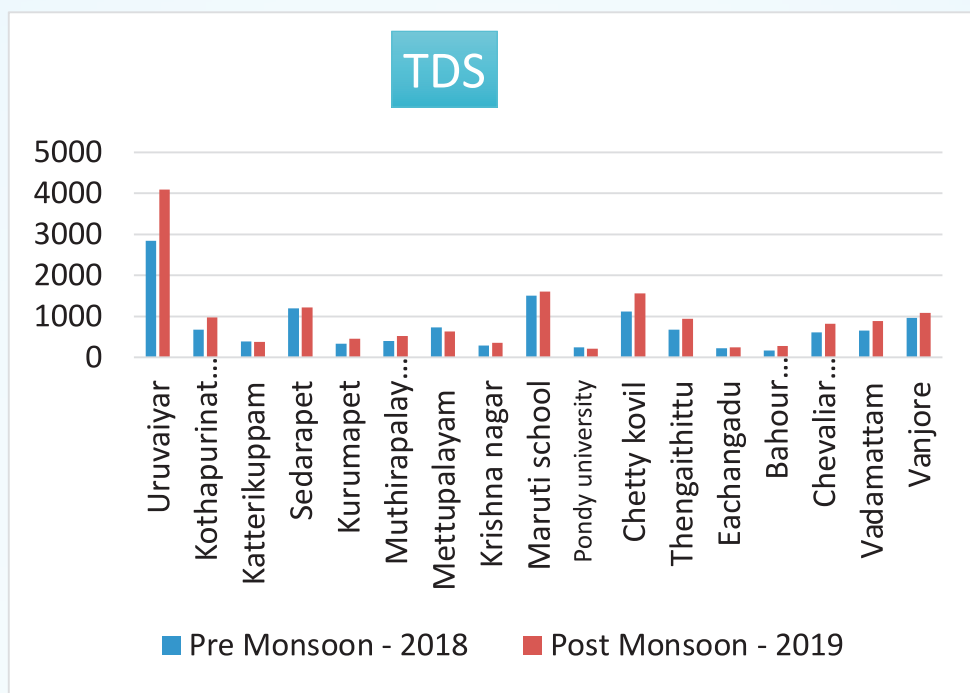


Fig 2.6 TDS(mg/l)

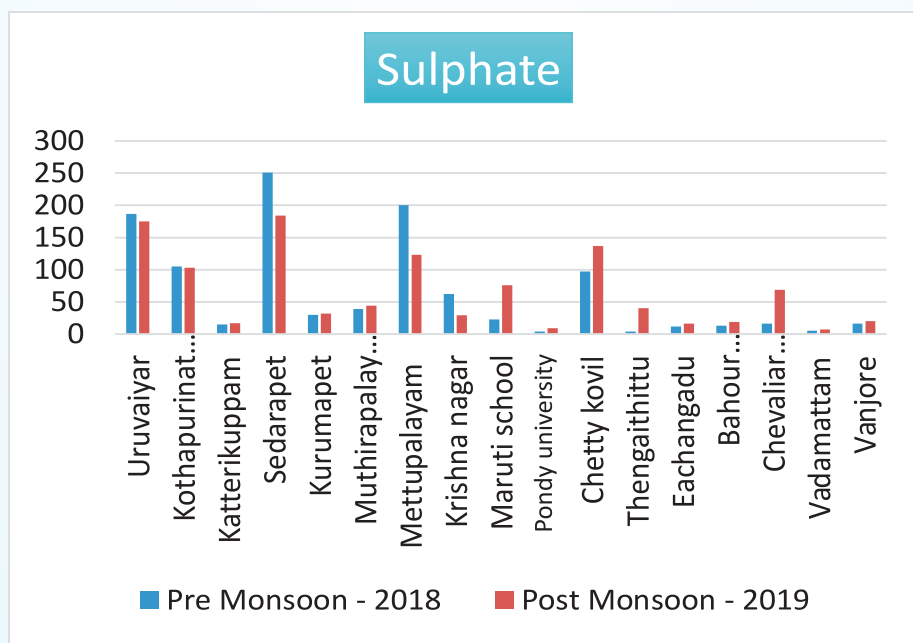


Fig 2.7 Sulphate (mg/l)

Surface Water Quality in Yanam Region 2018

Sl.No	Parameters	Adavipoolam	Tidal Lock	Balayogi Bridge
1	Dt.of Sampling	04.12.2018	04.12.2018	04.12.2018
2	Time	07.15 AM	07.40 AM	08.15 AM
3	Temperature °C	31	31	31
4	DO mg/l	6.5	6.3	7
5	pH	7.85	7.78	8.05
6	Conductivity $\mu\text{mho/cm}$	31,400	28,000	28,200
7	COD (mg/l)	4	40	Nil
8	BOD (mg/l)	2	20	BDL
9	Turbidity NTU	1.9	2.6	2.5
10	Nitrate -N (mg/l)	0.0521	0.0567	0.0515
11	Nitrite-N (mg/l)	0.0085	0.0091	0.0091
12	Nitrate (mg/l)	0.2307	0.2511	0.228
13	Carbonate (mg/l)	Nil	Nil	Nil
14	Bi- Carbonate as CaCO_3 (mg/l)	123	114.8	112.8
15	Chloride (mg/l)	12796	11596	11596
16	Ammonia -N (mg/l)	BDL	BDL	BDL
17	Total Hardness (mg/l)	3931.2	3328	3515.2
18	Calcium hardness (mg/l)	2496	2308.8	2350.4
19	Magnesium hardness (mg/l)	1435.2	1019.2	1164.8
20	Calcium as Ca^{++} (mg/l)	998.4	923.5	940.2
21	Magnesium as Mg^{++} (mg/l)	348.8	247.7	283
22	TDS (mg/l)	20430	18225	18350
23	TSS (mg/l)	13	27	12
24	FDS /TFS (mg/l)	17668	15022	15040
25	Sodium (mg/l)	6570	5430	5450
26	Potassium (mg/l)	242	215	210
27	Ortho Phosphate (mg/l)	BDL	0.02	0.01
28	Sulphate (mg/l)	1586	1255	1518
29	Hexavalent Chromium (mg/l)	BDL	BDL	BDL
30	% Sodium	77.1	76.6	75.8
31	SAR	45.5	40.9	39.9
32	Copper mg/L	BDL	0.006	BDL
33	Nickel mg/L	BDL	0.004	BDL
34	Cadmium mg/L	BDL	BDL	BDL
35	Lead mg/L	BDL	BDL	BDL
36	Total Chromium mg/L	BDL	BDL	BDL
37	Iron mg/L	0.66	0.7	0.43
38	Zinc mg/L	BDL	BDL	BDL
39	Arsenic mg/L	BDL	BDL	BDL
40	Mercury ng/L	BDL	BDL	BDL

Surface Water Quality in Mahe Region 2018

Sl.No.	Parameters	Pallur	Pandakkal	Mahe river
1	Dt.Of Sampling	04.07.2018	04.07.2018	04.07.2018
2	Time	9:50 AM	10:30 AM	11:00 AM
3	Temperature °C	28	28	30
4	D.O mg/l	-	-	6.3
5	pH	6.93	7.28	6.71
6	Conductivity µmho/cm	328	142	932
7	BOD mg/l	BDL	BDL	BDL
8	Nitrate - N mg/l	11.48	2.19	0.4
9	Nitrate mg/l	50.83	9.7	1.77
10	Nitrite - N mg/l	0.001	0.001	0.006
11	P & R Ratio	-	-	3
12	Turbidity NTU	0.8	1.3	8.5
13	Bi- Carbonate as CaCO ₃ mg/l	45	40.5	31.5
14	Carbonate as CaCO ₃ mg/l	-	-	-
15	Chloride mg/l	51.7	23	245
16	COD mg/l	BDL	BDL	16
17	Hardness as CaCO ₃ mg/l	84	46	90
18	Calcium as CaCO ₃ mg/l	68	28	50
19	Calcium as Ca ⁺⁺ mg/l	27.2	11.2	20
20	Magnesium as CaCO ₃ mg/l	16	18	40
21	Magnesium as Mg ⁺⁺ mg/l	3.9	4.4	9.7
22	Sulphate mg/l	8.04	1.1	46.42
23	Orthophosphate mg/l	0.015	0.041	0.009
24	TDS mg/l	203	88	587
25	TSS mg/l	10	5	14
26	FDS mg/l	74	36	224
27	Ammonia - N mg/l	0.042	0.031	0.052
28	Sodium mg/l	26.6	11.5	15
29	Potassium mg/l	4.4	1	5.9
30	Chromium as (Cr6+) mg/l	BDL	BDL	BDL
31	% Sodium	39.2	34.4	25
32	SAR	1.26	0.73	0.69

Water Quality Status from April 2018 to January 2019

Water quality monitoring is carried out by Puducherry Pollution Control Committee periodically at 22 locations in Puducherry, three each in Karaikal, Mahe and Yanam Regions under National Water Quality Monitoring Programme (NWMP). Monitoring is done on quarterly basis in surface water bodies in Puducherry and Karaikal regions, annually in Mahe and Yanam regions and during pre and post monsoon in the case of ground water.

Surface Water

Level of pH, DO and Faecal Coliform are meeting the primary water quality criteria. BOD in Chunnambar river (5 mg/l) during April 2018 Quarter, Kanaganeri lake (6 mg/l) during July 2018 Quarter and in Ousteri lake (4.2 mg/l) during January Quarter 2019 values are slightly higher than the primary water quality criteria of 3mg/l. The reason may be due to water stagnation, heavy accommodation of algal biomass and no incoming of water.

In Coringa river/Tidal lock, Yanam Region, BOD is 20 mg/l which may be due to discharge of domestic sewage in the river.

Ground Water

In Uruvaiyar borewell sample, Chloride, Total Hardness and TDS are higher than the permissible limit. This may be due to geological condition of that area. Turbidity in Eachengadu borewell (49.2 NTU) exceeds the permissible limit (5 NTU).



**STATUS OF SEA WATER QUALITY ON THE OCCASION OF VINAYAGA
CHATURTHI FESTIVAL 2018**

PUDUCHERRY

S.No	Parameter	Pre Immersion		During Immersion		Post Immersion	
		Sample - I	Sample - II	Sample - I	Sample - II	Sample - I	Sample - II
		Reference Point	Immersion Point	Reference Point	Immersion Point	Reference Point	Immersion Point
1	Dt. of Sampling	10.09.2018	10.09.2018	17.09.2018	17.09.2018	19.09.2018	19.09.2018
2	Time	10.40 AM	11.15 AM	06.30 PM	10.00 PM	10.10 AM	10.30 AM
3	Temperature °C	29	31	28	28	28	29
4	pH	7.64	7.88	7.69	7.79	8.00	8.03
5	Conductivity ms/cm	49	50	49.6	50	49.7	50.7
6	COD mg/l	Nil	Nil	Nil	Nil	Nil	Nil
7	BOD mg/l	BDL	BDL	BDL	BDL	BDL	BDL
8	TS mg/l	31,955	32,234	32,237	32,330	32,094	32,396
9	TDS mg/l	31,874	32,146	32,152	32,240	32,000	32,300
10	TSS mg/l	81	88	85	90	94	96
11	Arsenic (as As) mg/l	BDL	BDL	BDL	BDL	BDL	BDL
12	Cadmium (as Cd) mg/l	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper (as Cu) mg/l	0.114	0.02	0.13	0.13	0.13	0.13
14	Lead (as Pb) mg/l	BDL	BDL	BDL	BDL	BDL	BDL
15	Chromium (as Cr) mg/l	BDL	BDL	BDL	BDL	BDL	BDL
16	Nickel (as Ni) mg/l	0.059	0.07	0.10	0.078	0.12	0.12
17	Zinc (as Zn) mg/l	0.20	BDL	0.41	BDL	0.36	BDL
18	Iron (as Fe) mg/l	1.05	1.21	0.27	1.3	0.29	0.42
19	Dissolved Oxygen mg/l	6.1	6.1	6.3	6.6	6.3	6.6

KARAIKAL

S.No	Parameter	Pre Immersion		During Immersion		Post Immersion	
		Sample - I	Sample - II	Sample - I	Sample - II	Sample - I	Sample - II
		Reference Point	Immersion Point	Reference Point	Immersion Point	Reference Point	Immersion Point
1	Dt. of Sampling	11.09.2018	11.09.2018	15.09.2018	15.09.2018	18.09.2018	18.09.2018
2	Time	09.45 AM	09.30 AM	11.30 PM	11.00 PM	05.00 PM	04.30 PM
3	Temperature °C	31	31	29	29	31	31
4	pH	8.03	8.13	8.0	8.02	7.94	8.04
5	Conductivity ms/cm	51.8	51.9	51.9	52.4	51.4	51.6
6	COD mg/l	Nil	Nil	Nil	Nil	Nil	Nil
7	BOD mg/l	BDL	BDL	BDL	BDL	BDL	BDL
8	TS mg/l	33,578	33,724	33,535	34,044	33,381	33,597
9	TDS mg/l	33,490	33,628	33,450	33,952	33,300	33,510
10	TSS mg/l	88	96	85	92	81	87
11	Arsenic (as As) mg/l	BDL	BDL	BDL	BDL	BDL	BDL
12	Cadmium (as Cd) mg/l	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper (as Cu) mg/l	0.02	0.13	0.13	0.13	0.13	0.13
14	Lead (as Pb) mg/l	BDL	BDL	BDL	BDL	BDL	BDL
15	Chromium (as Cr) mg/l	BDL	BDL	BDL	BDL	BDL	BDL
16	Nickel (as Ni) mg/l	0.087	0.09	0.09	0.098	0.11	0.10
17	Zinc (as Zn) mg/l	BDL	BDL	BDL	BDL	BDL	BDL
18	Iron (as Fe) mg/l	1.25	1.52	1.96	1.43	0.63	0.28
19	Dissolved Oxygen mg/l	-	-	-	-	-	-

Puducherry Environment Event

World Environment Day

The U.N. General Assembly designated the 5th June of every year as World Environment Day for encouraging global awareness and action for environment. The theme for the year 2019 is 'Beat Air Pollution'.

Department of Science, Technology and Environment, Government of Puducherry in collaboration with Puducherry Pollution Control Committee, Government of Puducherry, Ministry of Environment, Forests and Climate Change (MoEF&CC), Government of India, Society of Integrated Coastal Management (SICOM), Government of India, Department of Tourism, Government of Puducherry, District Rural Development Authority, Government of Puducherry and ENVIS Hub, Puducherry, celebrated the World Environment Day at Eden Beach, Chinnaveerampattinam, Puducherry.

The Eden Beach at Chinnaveerampattinam was selected as the venue for the celebration of the World Environment Day as this beach has been proposed for “Blue Flag Certification for Beaches” which is a certificate awarded by the Foundation for Environmental Education (FEE) as a part of pilot project “Blue Flag Certification for Beaches” launched by the Ministry of Environment, Forests and Climate Change (MoEF&CC) to develop and enhance standards of cleanliness on beaches and to promote tourism and other related activities.

Hon'ble Chief Minister of Puducherry, Hon'ble Minister for Science, Technology & Environment and Member of Legislative Assembly of Ariyankuppam Constituency and Member of Legislative Assembly of Manavelly Constituency, the Block Development Officer, Ariyankuppam Commune Panchayat participated the above said event.

As a part of the “World Environment Day Celebration”, the Puducherry ENVIS Hub Centre organized the following activities.

Session I

Environment Awareness speech

- Dr. K. Rajendiran, Associate Professor, Department of Botany, Bharathidasan Women's College, Puducherry, and Dr. Krishnan, Retired OSD Directorate of School Education (Rtd.) gave special talk on environment.
- Mr. S.B. Aravind, Director of Temple Reef Foundation, Mr. C. Anantharaj, Mr. S. Kalaimohan and Ms. D. Beauty Daniel from Puducherry University educated the participants on Coastal Ecosystem and Marine Pollution.



Beach Cleaning activities:

A Beach cleaning activities were carried out by the officials of DSTE, Puducherry Pollution Control Committee along with Envis Staffs, NSS Volunteers, School & College Students and public participated in the campaign and many plastic and other littered solid waste materials were collected from the beach.



Session – II

Release of Annual Environment Survey Report

Department of Science, Technology and Environment, Puducherry Pollution Control Committee, Puducherry has released Annual Environment Survey Report for the 2018-2019 on this occasion.

The Hon'ble Chief Minister of Puducherry, Thiru. V. Narayanasamy released the Annual Environment Survey Book in the presence of the Hon'ble Minister for Science, Technology & Environment, the Member of Legislative Assembly of Ariyankuppam Constituency and the Member of Legislative Assembly of Manavelly Constituency, and the Block Development Officer, Ariyankuppam Commune Panchayat.



Cultural Awareness Programmes

Puppet show and Cultural Programmes on Beat Air Pollution were organized on this day.



Poster and Sticker released by Puducherry Envis Hub



Puducherry Environment Event News Reports

தினகரம்
சென்னை, விடுதலை 6.8.2019

P 5

சுற்றுச்சூழல் பாதுகாப்பு குறித்து பொதுமக்களிடம் விழிப்புணர்வு ஏற்பட வேண்டும்: நாராயணசாமி



For More Information scan this QR Code



The Times of India - Chennai, Thursday, June 6, 2019, pages 9-11

Union environment ministry selects 13 beaches, including one in Pondy, for blue flag certification


SEA OF CHANGE

India's first beach to receive the Blue Flag certification is Pondy. The Union Environment Ministry has selected 13 beaches across the country for the certification. Pondy is the first beach in India to receive the certification. The certification is given to beaches that meet the highest standards of cleanliness and safety. The beaches are: Pondy, Chennai; Marakkantham, Pondicherry; and 11 others across the country.


For More Information scan this QR Code



Garbage disposal issues still plague Puducherry



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சுற்றுப்புறத்தை சுத்தமாக வைத்துக் கொள்ள வேண்டிய பொறுப்பு பெண்களுக்கு உள்ளது

முதல்வரின் தாராளமையம் பேச்சு




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Firms to be involved for biomining of waste


Puducherry: Firms to be involved for biomining of waste




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Operation beach clean to put coastal towns on global map



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