

Assessment of Water Quality on idol immersion of Durga Puja, 2023 at Guwahati City

The Durga Puja festival was observed in Assam along with the rest of the country from 21st October, 2023. After four (04) days of worship and rituals, the idols of Goddess Durga were immersed in different water bodies at different places of Guwahati city on 24.10.2023.

The craftsman use to make the idols from various materials like hay and clay besides use of some organic and inorganic colours. The inorganic colours contains various toxic metals like lead, zinc, copper, chromium, etc. when the idols are immersed into water bodies, it is likely to contaminate the water bodies by dissolving the toxic metals and degrading the water quality and thereby affecting the eco-system of the water body.

Pollution Control Board, Assam has assessed the impact on the Water Quality due to immersion of the Durga idols. Water Quality has been tested to assess the degree of contamination during and after Durga puja and about two weeks before ensuing Durga puja to generate baseline data. The Board has collected water samples from different water bodies where idol immersion took place. In Guwahati alone, there were eight (08) immersion ghats namely, Sunsali Ghat, Digaru Ghat, Chandrapur, Basistha Ghat, Saukuchi Ghat, Major-baha Ghat, Dharapur, Pandu Ghat Kasomari Ghat and Sonapur ghat.

The pre Durga puja sampling was carried out on 10.10.2023. During immersion monitoring was carried out on 24.10.2023 just after the idol immersion. The post Durga Puja sampling were carried out on 26, 28, 30th October 2023 and on 2nd November 2023 respectively.

The water Quality trends were observed to be same as of the preceding years throughout Guwahati city in almost all the immersion ghats. There is slight increase in concentration of BOD parameter at certain ghats which crossed the prescribed value of 3 mg/l. The heavy metal concentration were found to be below detectable limit in all the sampling ghats of Guwahati city.

After the immersion activities were over, the district administration directed the municipal authorities to clean the immersion ghats.



(M.D. Adhikary)
Sr. Env Scientist
PCBA

Water Quality Data monitored on idol immersion for festivals of Durga Puja in Guwahati city for the year 2023

Source of sample (River, Lake, Pond)	Event (Pre/ During /Post)	Date	DO (mg/l)	pH	BOD (mg/l)	COD (mg/l)	Cond (μS/cm)	Turbidity (mg/l)	TDS (mg/l)	Chlorides (mg/l)	TSS (mg/l)	Total Hardness (mg/l)	Total Alkanity (mg/l)	Cadmium (mg/l)	Copper (mg/l)	Chromium Total (mg/l)	Manganese (mg/l)	Lead (mg/l)	Zinc (mg/l)	Mercury (mg/l)
Brahamaputa river at Pandu Ghat	Pre	10.10.2023	8.4	8.0	1.6	12.2	160.6	28.6	80.0	2.0	34.0	130	74	0.02	0.03	0.06	0.02	0.10	0.031	0.001
	During	24.10.2023	7.3	7.7	1.9	14.0	179.7	34.2	95.0	4.0	48.0	146	84	0.02	0.03	0.06	0.02	0.10	0.015	0.001
	Post	26.10.2023	7.0	7.9	2.3	15.8	194.3	38.6	104.0	8.0	56.0	160	98	0.02	0.03	0.06	0.02	0.10	0.009	0.001
		28.10.2023	7.2	7.6	2.2	15.2	186.1	36.1	98.0	6.0	40.0	152	94	0.02	0.03	0.06	0.02	0.10	0.01	0.001
		30.10.2023	7.2	7.8	1.9	14.6	178.0	35.4	101.0	8.0	44.0	148	88	0.02	0.03	0.06	0.02	0.10	0.01	0.001
		02.11.2023	7.3	7.6	1.7	14.0	162.2	32.0	90.0	6.0	38.0	150	90	0.02	0.03	0.06	0.02	0.10	0.01	0.001
Brahamaputa river at Kasomarighat	Pre	10.10.2023	7.0	8.1	1.8	10.8	176.8	25.4	88.0	2.0	40.0	130	80	0.02	0.03	0.06	0.02	0.10	0.031	0.001
	During	24.10.2023	6.6	7.2	2.6	28.0	195.3	37.5	98.0	5.0	52.0	136	96	0.02	0.03	0.06	0.02	0.10	0.012	0.001
	Post	26.10.2023	6.4	7.3	2.8	30.6	206.4	39.2	110	6.0	68.0	148	98	0.02	0.03	0.06	0.02	0.10	0.001	0.001
		28.10.2023	6.0	7.2	2.4	22.4	190.1	30.6	96	5.0	54.0	138	94	0.02	0.03	0.06	0.02	0.10	0.01	0.001
		30.10.2023	6.2	7.8	2.0	18.8	186.3	30.2	92	4.0	42.0	146	90	0.02	0.03	0.06	0.02	0.10	0.03	0.001
		02.11.2023	6.4	7.4	2.2	16.2	192.2	26.3	90	5.0	48.0	142	60	0.02	0.03	0.06	0.02	0.10	0.01	0.001
Brahamaputra river at Sunsali Ghat	Pre	10.10.2023	7.6	8.1	2.1	12.6	161.2	22.1	79	2.0	16.0	118	60	0.02	0.03	0.06	0.02	0.10	0.020	0.001
	During	24.10.2023	7.0	7.5	2.6	20.0	181.4	33.1	96	4.0	28.0	134	72	0.02	0.03	0.06	0.02	0.10	0.014	0.001
	Post	26.10.2023	8.0	7.6	2.8	20.8	192.0	28.3	87	8.0	46.0	142	88	0.02	0.03	0.06	0.02	0.10	0.002	0.001
		28.10.2023	7.2	7.2	2.4	14.8	165.3	23.2	76	6.0	34.0	128	76	0.02	0.03	0.06	0.02	0.10	0.01	0.001
		30.10.2023	7.7	7.7	2.0	14.0	160.1	21.8	72	6.0	20.0	132	74	0.02	0.03	0.06	0.02	0.10	0.01	0.001
		02.11.2023	7.6	8.0	2.2	13.2	164.0	21.3	70	4.0	26.0	124	68	0.02	0.03	0.06	0.02	0.10	0.01	0.001
Basistha river at Basistha Ghat, Ganesh Nagar	Pre	10.10.2023	7.6	7.7	2.4	9.6	55.5	7.8	26	3.0	36.0	20	38	0.02	0.03	0.06	0.02	0.10	0.028	0.001
	During	24.10.2023	6.0	7.1	2.7	20.0	77.2	13.6	38	5.0	42.0	40	42	0.02	0.03	0.06	0.02	0.10	0.011	0.001
	Post	26.10.2023	6.3	7.3	2.9	22.4	120.6	16.0	56	6.0	58.0	64	70	0.02	0.03	0.06	0.02	0.10	0.023	0.001
		28.10.2023	6.0	7.3	2.8	18.6	98.0	17.5	48	3.0	46.0	56	60	0.02	0.03	0.06	0.02	0.10	0.01	0.001
		30.10.2023	6.7	7.2	2.6	16.2	64.9	9.0	34	4.0	40.0	30	34	0.02	0.03	0.06	0.02	0.10	0.01	0.001
		02.11.2023	6.2	7.1	2.2	12.8	60.2	8.9	30	2.0	34.0	26	32	0.02	0.03	0.06	0.02	0.10	0.01	0.001
BasisthaBahini river at Saukuchi Ghat	Pre	10.10.2023	3.3	7.3	3.5	18.6	252.7	5.2	108.0	8.0	28.0	90	96	0.02	0.03	0.06	0.02	0.10	0.039	0.001
	During	24.10.2023	1.4	7.1	3.8	26.8	278.8	11.3	122.0	10.0	40.0	124	108	0.02	0.03	0.06	0.02	0.10	0.011	0.001
	Post	26.10.2023	1.8	7.5	3.7	25.2	283.1	9.0	130.0	14.0	52.0	122	128	0.02	0.03	0.06	0.02	0.10	0.017	0.001
		28.10.2023	1.1	7.1	3.4	26.2	265.4	11.0	115.0	10.0	38.0	96	104	0.02	0.03	0.06	0.02	0.10	0.01	0.001
		30.10.2023	1.4	7.2	2.8	20.4	242.1	8.3	98.0	12.0	42.0	104	100	0.02	0.03	0.06	0.02	0.10	0.01	0.001
		02.11.2023	2.8	7.2	3.0	22.0	257.2	8.1	102.0	9.0	34.0	98	102	0.02	0.03	0.06	0.02	0.10	0.01	0.001
Water from Kolong river at Digarughat, Chandrapur	Pre	10.10.2023	8.1	7.9	2.0	9.6	154.2	14.9	77.0	3.0	32.0	126	62	0.02	0.03	0.06	0.02	0.10	0.037	0.001
	During	24.10.2023	7.0	7.6	2.7	24.0	194.2	32.0	95.0	6.0	36.0	138	88	0.02	0.03	0.06	0.02	0.10	0.014	0.001
	Post	26.10.2023	6.7	7.7	2.9	25.8	201.5	36.7	92.0	10.0	44.0	142	126	0.02	0.03	0.06	0.02	0.10	0.007	0.001
		28.10.2023	8.8	7.6	2.6	22.2	217.3	23.2	88.0	7.0	42.0	136	130	0.02	0.03	0.06	0.02	0.10	0.01	0.001
		30.10.2023	8.7	7.8	2.7	21.0	184.2	19.9	90.0	8.0	34.0	128	132	0.02	0.03	0.06	0.02	0.10	0.01	0.001
		02.11.2023	8.1	7.8	2.2	17.8	182.1	17.0	84.0	5.0	30.0	112	94	0.02	0.03	0.06	0.02	0.10	0.01	0.001
Water from	Pre	10.10.2023	7.3	7.8	2.2	8.8	186.6	20.8	92.0	4.0	32.0	120	72	0.02	0.03	0.06	0.02	0.10	0.027	0.001

Source of sample (River, Lake, Pond)	Event (Pre/ During /Post)	Date	DO (mg/l)	pH	BOD (mg/l)	COD (mg/l)	Cond (µS/cm)	Turbidity (mg/l)	TDS (mg/l)	Chlorides (mg/l)	TSS (mg/l)	Total Hardness (mg/l)	Total Alkanity (mg/l)	Cadmium (mg/l)	Copper (mg/l)	Chromium Total (mg/l)	Manganese (mg/l)	Lead (mg/l)	Zinc (mg/l)	Mercury (mg/l)
Brahmaputra river at Majar-bahaghat, Dharapur	During	24.10.2023	6.9	7.5	2.7	16.0	243.0	26.8	121.0	6.0	40.0	134	94	0.02	0.03	0.06	0.02	0.10	0.016	0.001
	Post	26.10.2023	8.0	7.6	2.9	18.9	269.7	25.6	132.0	12.0	53.0	146	116	0.02	0.03	0.06	0.02	0.10	0.003	0.001
		28.10.2023	7.5	7.6	2.4	14.8	238.3	22.3	118.0	8.0	46.0	138	122	0.02	0.03	0.06	0.02	0.10	0.01	0.001
		30.10.2023	7.9	7.7	2.6	14.2	175.2	18.6	86.0	10.0	36.0	104	112	0.02	0.03	0.06	0.02	0.10	0.01	0.001
		02.11.2023	8.3	7.6	2.5	12.6	182.1	12.2	90.0	6.0	30.0	116	96	0.02	0.03	0.06	0.02	0.10	0.014	0.001
Digaru River at Sonapur Ghat	Pre	10.10.2023	8.6	7.3	1.9	7.8	39.5	6.0	23	2.0	20	20	32	0.02	0.03	0.06	0.02	0.10	0.01	0.001
	During	24.10.2023	6.2	7.3	2.8	16.0	49.8	12.0	28	3.0	32	26	42	0.02	0.03	0.06	0.02	0.10	0.006	0.001
	Post	26.10.2023	6.7	7.6	2.7	16.2	51.6	10.7	26	5.0	32	30	32	0.02	0.03	0.06	0.02	0.10	0.01	0.001
		28.10.2023	6.7	7.2	2.3	14.4	45.0	9.0	24	3.0	30	24	42	0.02	0.03	0.06	0.02	0.10	0.01	0.001
		30.10.2023	6.5	7.5	2.4	12.6	45.2	7.2	20	4.0	24	26	38	0.02	0.03	0.06	0.02	0.10	0.01	0.001
		02.11.2023	6.8	7.5	2.2	10.8	40.61	8.9	21	3.0	18	22	20	0.02	0.03	0.06	0.02	0.10	0.01	0.001