

Studies on Hydrogeochemistry Along the Coastal Area of Kanyakumari to Colachel After Tsunami, South Tamil Nadu

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Monitoring of Ground Water Quality Around Kalpakkam

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Ground water samples (65 no.) comprising of boreholes and open wells collected from 19 villages around Kalpakkam, Tamil Nadu were analysed for water quality parameters, such as pH, electrical conductivity, total dissolved solids, chloride, total hardness, total alkalinity and fluoride. Results of pH, electrical conductivity, total dissolved solids, chloride, total hardness, total alkalinity and fluoride varied from 6.3 to 8.0, 79 to 7213 $\mu\text{S}/\text{cm}$, 41 to 3742 mg/L, 9 to 1786 mg/L, 20 to 1540 mg/L, 9 to 522 mg/L and 0.010 to 1.130 mg/L, respectively. Wide range values of the physico-chemical parameters observed in some of the locations signifies restricted movement of ground water and presence of discrete pockets of ground water having variable water quality. Significant positive correlation has been observed between all the parameters. In this study it was observed that the water quality parameters of water samples collected from the locations nearer to the coastal area is high except for pH and fluoride. This higher concentration of water quality parameters collected from these locations may be due to sea water intrusion. In other locations which are away from the coastal area the water quality parameters were well within the drinking water limits prescribed by Bureau of Indian Standards.

Physico-Chemical Characteristics of Ground Water in and Around Jagatpur Industrial Estate, Cuttack District

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Ground water acts as a reservoir and source of water for wells, springs, bore wells and handpumps. The increase in human population and fast development led to the scarcity of drinking water. The inadequate and irregular supply of water through piped water system has forced the population to use the ground water especially bore wells. As the bore well is used for drinking purpose by most of the population, it is very essential to test the quality of water. The study was carried out by collection of ground water samples from about 6 bore

wells located in Jagatpur Industrial Estate area. The samples were collected quarterly in the month of January 09, May 09 and September 09 to determine the different parameters, such as pH, total dissolved solids, BOD, COD, Cl^- , T. Fe, turbidity, SO_4^{2-} , total hardness. Seasonal variations of different parameters have been compared with the standard. From the results mean, standard deviation and correlation, coefficient among parameters has been studied.

Evaluation of Groundwater Quality in an Industrial Area in Bangalore, Karnataka

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Drinking water is contaminated through the pipe distribution system or directly through groundwater due to addition of wastewater discharged from domestic, industrial and agricultural sources. Water quality index (WQI) is a unit less number of 100 point scale that provides a pointer to the quality of water source. The aim of the investigation is to assess the quality of groundwater regarding its use for drinking purpose. A total of 31 samples were collected from selected bore wells within the industrial area and from villages bordering the study area in the summer season (April 2009). The samples were analyzed for various water quality parameters by adopting standard methods (APHA, 1988). From the data obtained, the WQI was calculated by adopting the method developed by Tiwari and Mishra (1985). The WQI values ranged from 49.2 to 502.1 during this period. On careful examination of the data it was found that most of the water quality parameters were beyond the desired limit prescribed by BIS, making the water unsafe for human consumption and hence pretreatment is essential to make it potable water.

Status of Ground Water Quality in Bhubaneswar With Statistical Interpretation for the Year 2009

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Due to rapid urbanization of Bhubaneswar city, the population load is increasing sharply day by day. As a result, the requirement of water for human activities is increasing. In return a huge amount of wastewater is generated and discharged into river Kuakhai and make it polluted. Thus people are forced to use ground water which is known to be safe for drinking. At present 40% people of Bhubaneswar depend on ground water. But unfortunately the ground water is also getting polluted day by day. So it is high time to assess the ground water quality in Bhubaneswar. Nine different locations were chosen depending on population load and

to cover all parts of Bhubaneswar .The samples were collected quarterly in the month of January-09, May-09 and September-09 to determine different physical, chemical and biological parameters. The seasonal variations of different parameters have been compared with the standard. From the results mean, standard deviation; correlation coefficient among different parameters has been studied. It is found that total hardness is highly correlated with chloride, conductivity and total dissolved solids. Similarly chloride is highly correlated with conductivity and total dissolved solids. Conductivity and total dissolved solids are highly correlated. The results are compared with standard values.

Monitoring of Algal Evolution and Eutrophication in Various Surface Water Bodies of Chitrakoot Region

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Eutrophication study of some water bodies of Chitrakoot region was carried out. The surface water bodies selected were Majhgawan ponds, Guptgodawari tanks, Semaria pond, Ranipur pond, river Mandakini and river Bagin. The study was emphasized on determination of total biomass, ash content and volatile material. Maximum algal biomass was recorded 2589.11 ppm in Mandakini river while minimum, 976.53 ppm, in Majhgawan ponds. Maximum ash content value, 2096.25 ppm was observed in Mandakini river while minimum, 721.06 ppm in Majhgawan ponds. Likely total volatile material was recorded maximum, 562.50 ppm, in Semaria pond while minimum, 218.75 ppm, in Ranipur pond.

Correlation and Regression Analysis on Water Quality Parameters of Ram Ganga River at Moradabad, Uttar Pradesh

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The problem of the identification of the influence of anthropogenic contamination to our water systems, particularly surface water and groundwater, has become so acute and such a continuous process that its regular analysis on experimental basis is not possible and also if possible, then it is expensive one. Therefore, statistical techniques (correlation and regression methods) have been widely adopted by many professionals in the specific field concerned to identify as well as to predict the water quality parameters with high accuracy without any experimental operation. By this, one can easily identify the intensity of anthropogenic impact on the water quality. In the current work our main objective is to establish correlations and

to formulate regression equations between 12 physico-chemical parameters of Ram Ganga river water at Moradabad, Uttar Pradesh. It has been found that due to high correlation of electrical conductivity (EC) with all the rest 11 physico-chemical parameters, the water quality of Ram Ganga river can easily be predicted as well as be controlled simply by considering the electrical conductivity of the water.

Bacteriological Status of Surface Water Sources on Potability in Angul-Talcher Industrial Zone of Orissa

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Rapid pace of industrialization, concurrent growth of urbanisation, need and change of life style of over expanding population in Angul-Talcher industrial zone of Orissa have the potential to degrade the available surface water. Different surface water sources were studied in this area to know the status and seasonal variation of bacterial population for assessing potability. The analysis results revealed that pond and river water were having high coliform counts throughout the study period, thus unfit for drinking purpose without proper treatment. However, municipal tap water was found to be comparatively safe for use as drinking water.

Physico-chemical Quality of Paiswani River Water During Deepawali Mela Chitrakoot 2008

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Deepawali mela at Chitrakoot during, 26-30 October, 2008 about 12 lakh of pilgrims were pay the parikrma of god Kamta Nath. All the pilgrims visited Deepawali mela, took holy dip in the river Paiswani (Mandakini Ganga) and this led to the changes of quality of river Paiswani. The effect caused by mass bathing activities was assessed and discussed. It were observed that, total coliform, TDS, total hardness, BOD, DO and total alkalinity had significant changes due to mass bathing activities. However, pH was not significantly affected. On the basis of water quality assessment suitable recommendations have been made in present paper.

Diversity of Starch, Casein and Lipid Hydrolyzing Bacterial Population in a Minor Estuary South West Coast of India

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In the present study an attempt has been made to assess the diversity of enzymatic microflora in a minor estuary (Rajakkamangalam estuary) in the southwest coast of India. For this 4 different sampling stations (S1-S4) were fixed in the chosen estuary. Monthly water and sediment samples were made in the selected sampling points in triplicate for a period of one year, that is 2001. Physiological grouping of microorganisms occurred in water and sediment samples was analyzed according to their ability to hydrolyze starch, casein and lipid. The starch, casein and lipid hydrolyzing bacterial population in the water and sediment samples of the selected sampling stations showed monthly and seasonal variations. In water sample, seasonwise pooled data on starch hydrolyzing bacterial population revealed that it was maximum during non-monsoon period in 2001 ($39.25 \pm 6.26 \times 10^{-3}$ cfu/mL) at S1. Likewise casein hydrolyzing bacterial population were maximum at S2 during non-monsoon period in 2001 ($22.25 \pm 4.72 \times 10^{-3}$ cfu/mL). The starch, casein and lipid hydrolyzing bacterial population in the sediment samples of the selected sampling stations were also showed monthly and seasonal variations.

Assessment of Groundwater Resources at Sultanpur, Uttar Pradesh

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Ten different underground drinking water samples were collected during the year 2009 from different India Mark 2 handpumps of extensively used different public places at Sultanpur following standard methods of sampling. Samples were quantitatively analysed for a number of physico-chemical parameters by standard methods and procedures prescribed by APHA and estimated values were compared with WHO drinking water standards. The water of almost all the sites was found to be alkaline, hard or very hard and having high extent of chemical contaminants. The drinking water is deficient of essential micro-nutrients and fluoride, an essential element. People exposed to water of study area must be facing the repercussions of polluted drinking water. Water quality management of underground resources at Sultanpur is urgently needed. Present study may assist local authorities in making future underground water quality management policies.
