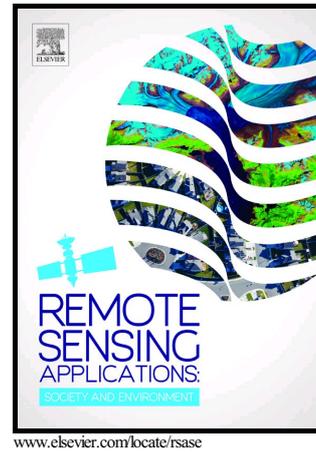


Author's Accepted Manuscript

Influence of coastal morphology on the distribution of heavy metals in the coastal waters of Tupilipalem coast, Southeast coast of India

G. Sreenivasulu, N. Jayaraju, B.C. Sundara Raja Reddy, B. Lakshmana, T. Lakshmi Prasad



PII: S2352-9385(17)30208-2
DOI: <https://doi.org/10.1016/j.rsase.2018.04.003>
Reference: RSASE131

To appear in: *Remote Sensing Applications: Society and Environment*

Received date: 1 October 2017
Revised date: 4 April 2018
Accepted date: 8 April 2018

Cite this article as: G. Sreenivasulu, N. Jayaraju, B.C. Sundara Raja Reddy, B. Lakshmana and T. Lakshmi Prasad, Influence of coastal morphology on the distribution of heavy metals in the coastal waters of Tupilipalem coast, Southeast coast of India, *Remote Sensing Applications: Society and Environment*, <https://doi.org/10.1016/j.rsase.2018.04.003>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Influence of coastal morphology on the distribution of heavy metals in the coastal waters of Tupilipalem coast, Southeast coast of India

G. Sreenivasulu¹, N. Jayaraju^{1*}, B.C. Sundara Raja Reddy², B. Lakshmana¹,
T. Lakshmi Prasad³

¹Department of Geology, Yogi Vemana University, Kadapa, Andhra Pradesh, India.

²Department of Geology, Sri Venkateswara University, Tirupati, Andhra Pradesh, India.

³Department of Earth Sciences, Yogi Vemana University, Kadapa, Andhra Pradesh, India.

*Corresponding author's E-mail: nadimikeri@gmail.com

Abstract

To detect the shoreline changes, multitemporal satellite images of Landsat 8 OLI/TIRS dated October 27, 2014 (Monsoon) and August 27, 2015 (Premonsoon) were downloaded from USGS, Earth Explorer. Remotely sensed multi-date image analysis revealed that sandbar across the lagoon mouth is highly dynamic. Lagoon mouth closure was observed during monsoon and opened during premonsoon. To understand the influence of coastal morphology on the distribution of heavy metals from the waters of Tupilipalem coast, Southeast coast of India, a total of 13 bottom water samples were collected at a depth of < 2m near coast and analyzed with ICP-OES for the heavy metal concentrations. The heavy metals were assessed by factor analysis and hierarchical cluster analysis. The Pearson's correlation analysis yielded positive correlations among Fe, Cr and Zn during monsoon, similarly, Fe and Ni during premonsoon. The concentrations of heavy metals in the bottom water of Tupilipalem coast could be arranged in the following sequence: Fe > Pb > Zn > Ni > Cu > Cr > Cd > Mn. The significant seasonal variation among the studied heavy metals is the proxy for the influence of seasonal lagoon mouth closure.

Key words: Lagoon mouth dynamics, heavy metal pollution, statistical analysis,
Dugarajapatnam port

Download English Version:

<https://daneshyari.com/en/article/8866350>

Download Persian Version:

<https://daneshyari.com/article/8866350>

[Daneshyari.com](https://daneshyari.com)