POSTER PRESENTATION

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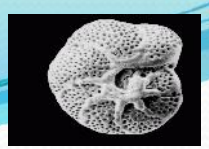
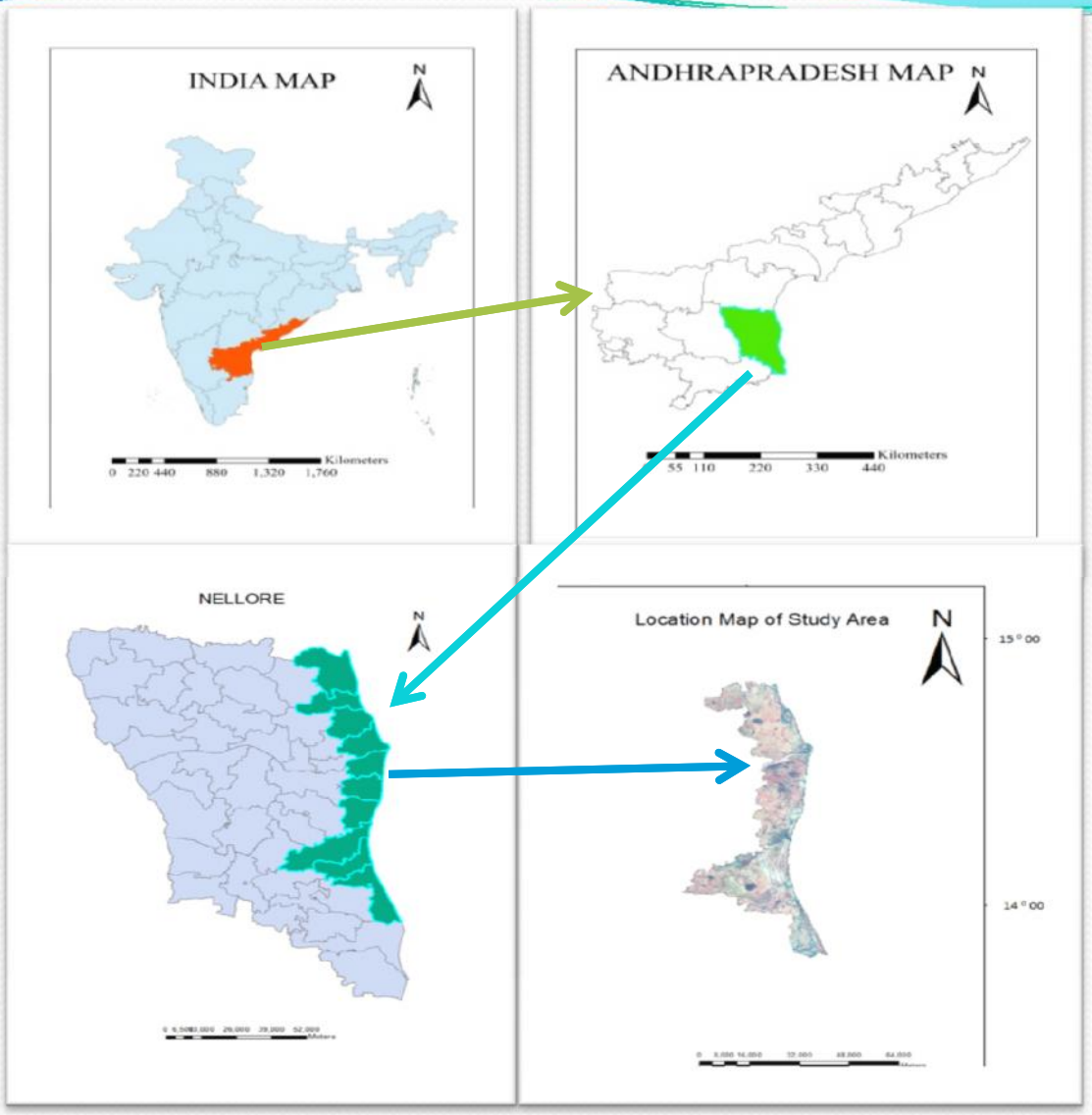


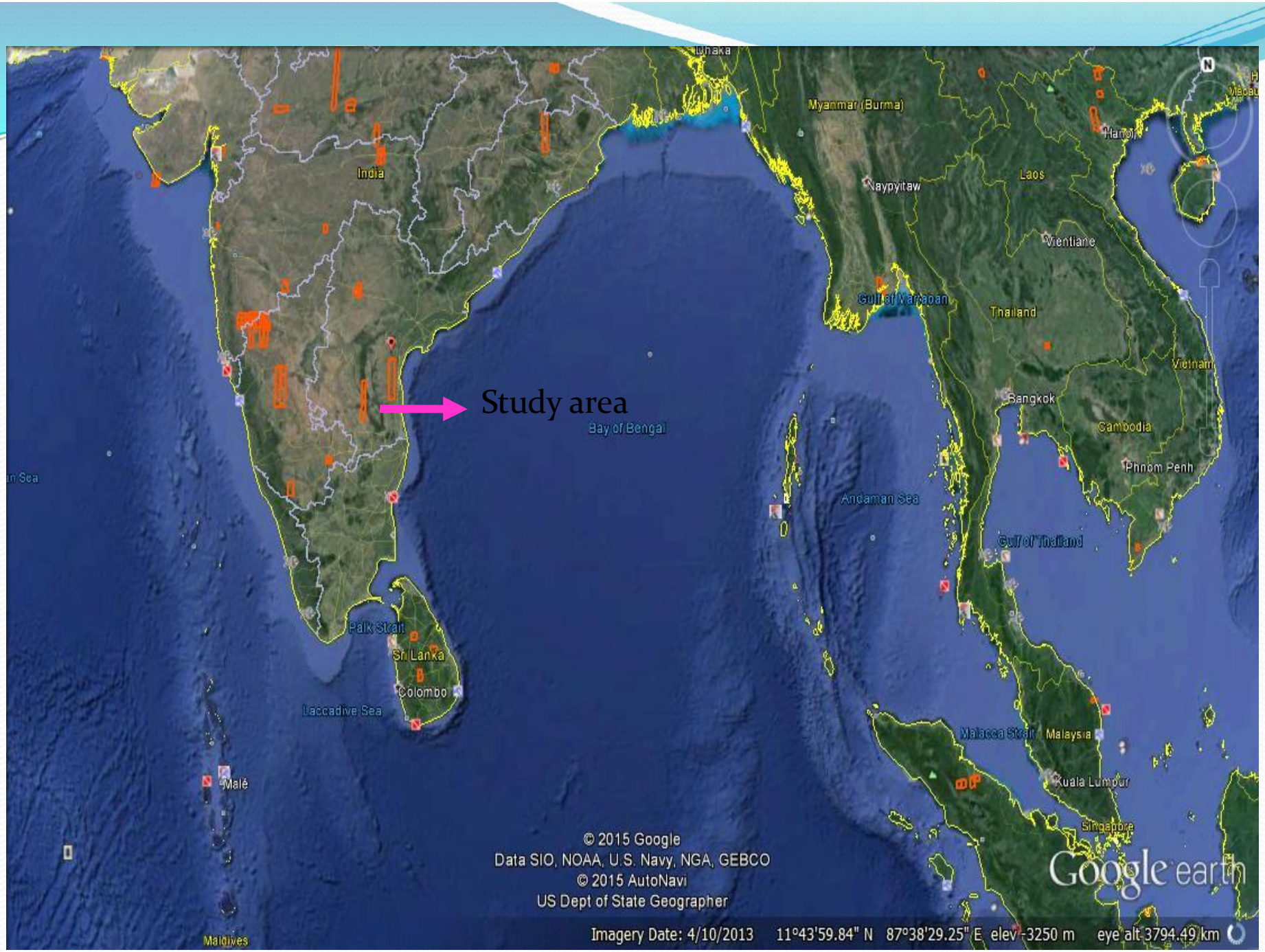
COASTAL POLLUTION SIGNATURES OF BIOINDICATORS: A STUDY FROM PARTS OF ANDHRA COAST SOUTH EAST COAST OF INDIA

Introduction:

Pollution is a change in the physical, chemical and biological characteristics of water and sediments.It causes degradation of the natural quality of the coastal environmental, it affects the health and survival of all forms of life. Andhra coast is fast developing like any other coast in the World with installation of various industries along coastal zone in addition to ever increasing aquaculture development, it is very interesting and imperative to know how much the coastal zone and the river estuaries have subjected for pollution owing to anthropogenic stress which proves lethal to the marine life and bio ecosystem. Heavy metals can enter a water supply by industrial, anthropogenic aquatic life, and even severe human health effects (Kennish, 1992). Moreover, because of increased knowledge of the biology of foraminifera have a great potential as indictors of pollution, there by proving one of the most sensitive and inexpensive markers of environmental stress in both in naturally and anthropogenically stressed locations (Coccioni et al., 2009). The present study is handy and timely. The full potential of foraminifers as tool in pollution monitoring requires the testing hypotheses formulated from and laboratory observations. Furthermore, the qualities that make foraminifers exceptional monitoring tools are advantageous in experimental research.



Location of the study area at Nellore coast (Andhra coast)


Study area
Dhaka
Myanmar (Burma)
India
Naypyitaw
Laos
Vientiane
Gulf of Martaban
Thailand
Vietnam
Bangkok
Cambodia
Phnom Penh
Bay of Bengal
Andaman Sea
Gulf of Thailand
Palk Strait
Sri Lanka
Colombo
Laccadive Sea
Malaysia
Kuala Lumpur
Singapore
Malé
Maldives
© 2015 Google
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
© 2015 AutoNavi
US Dept of State Geographer
Google earth
Imagery Date: 4/10/2013 11°43'59.84" N 87°38'29.25" E elev -3250 m eye alt 3794.49 km

Objectives

- To determine the distribution, bio-availability, and concentration of metals in sediments within the some parts of Andhra coast East coast of India.
- To determine if key identifiable foraminiferal assemblages are good tracers of pollutants on a spatial /temporal scale
- To determine specific morphological deformities induced by bio-available metals in controlled culture experiments

- To collect sediment and water samples for heavy metals (ppm), (Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Pb, Cd, Hg, Ti, etc.,) analysis within the study area.
- To examine the pollution signatures documented on the foraminferal tests of the sediment samples, and its response to various pollution sources like deformed tests, reduced size of chambers, twisted chambers and distorted chamber arrangement.
- To carry out spatial /Statistical Analysis using sediment Chemistry, Water quality and formaminiferal Deformation.

Interdisciplinary relevance

It is interdisciplinary science involving Micropaleontology and Marine Geology. The present study relates marine pollution with bio indicators. Chemical data and foraminiferal test abnormalities are used in the research project to decipher the zones of pollution.

Significance of the study

The importance of the proposed work lies in extending the well established work at some parts along the East coast of Andhra Pradesh, South East coast of India. Attempting to study the anthropogenic and post industrial pollution effects on the recent foraminifera as a bio indicator using RS & GIS techniques too. To prepare the Environment Discriminating Graph (EDG) of study area and to examine the effect of anthropogenic pollution on the proxies of benthic foraminifera in comparison with rest of the east and west coasts of India.

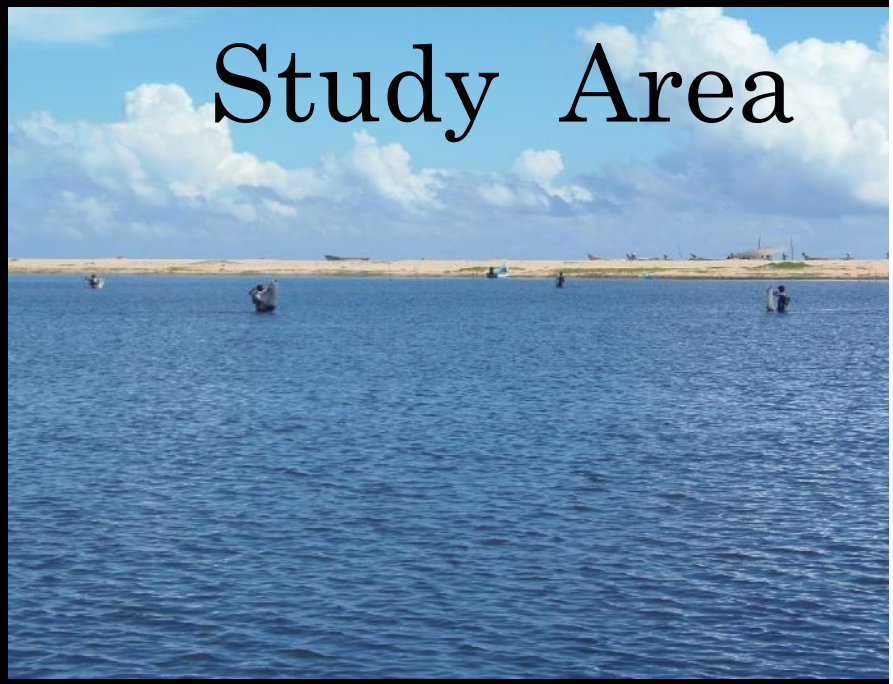
ACKNOWLEDGEMENTS

- I am highly thankful to Prof. Attipalli Ramachandra Reddy Hon'ble Vice chancellor Y.V.UniversityKadapa,A.P.,INDIA for Permission to attend this Winter School

- Thanks are also due to B.Madhusudan Rao ITCOocean, INCOIS & Local Organizing Committee of this Winter School for extending support to attend this event.

Research field Team

Study Area




Thank you