

**Veera narayana Balabathina**

Assistant Professor of Geology

**Home Address**

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**Professional Summary**

* Proactive Professor (Assistant) and excellent Researcher with over 13 years of experience specializing in Geology worked at various reputed universities and research organizations.
* Proficient Geoscientist with hands on experience in: Geo-spatial technologies (GIS & Remote Sensing), Petroleum &gas and Mineral exploration industries, Applied Sedimentary petrography.
* Experienced and results-oriented professor with years of experience teaching/guiding undergraduate and postgraduate students, and carried out various research projects of national interest.
* Book chapters(2)/Research papers (16) published in various reputed national/international journals.

**Objective**

Eager to provide cutting-edge research and technology with sound qualitative methods while ensuring high ethical standards and commitment

**Work Experience**

**Scientific Advisor Oct 2020 – Till date Society for Environment &Sustainable Development**

* Teaches remote sensing and GIS for environmental sustainable development
* Provides scientific & technical support of RS&GIS for Environmental Monitoring
* Supervisor for post graduate student Internship research programs

**Assistant Professor ─ Geology Oct 2015 – Oct 2020**

**University of Gondar, Ethiopia, East Africa**

* Taught geo-spatial technology courses, Remote sensing &GIS, Photogrammetry, GPS/GNSS at undergraduate and postgraduate level in department of Geology and Engineering
* Also taught courses like:Applied Sedimentary petrology, Igneous petrology, Mineral exploration Optical/ Mineralogy, Geochemistry, Geomorphology, Petroleum & Coal geology, Geothermal energy, Stratigraphy Sedimentology, Environmental Geology & EIA, Field geology.
* Supervised thesis and dissertations at undergraduate and postgraduate levels
* Developed lecture materials, and manuals for laboratory and practical classes
* Collaborated with students to identify possible research projects and trained in software
* Leading the department in pursuing critical research projects of national interest
* Planed lectures, assignments and in-field experiences to collaborate with course curriculum

**Geologist cum Remote Sensing Specialist (Post Doc) July2012−July2015**

**Integrated Coastal Management, Ministry of Environment, Forests & Climate Change**

**(A World Bank aided), New Delhi**

* Demarcation of Hazard-line and Flood zonation along the Indian coast using fine aerial imageries
* Sediment cell mapping for identification of erosion and accretion areas along the coast
* Land use and land cover change detection along the coast using Hyper spectral temporal data
* Flight planning for aerial photography and generation of Ortho-rectified imageries
* Developed a methodology for demarcation of hazard-line for a return period of 100 years
* Validation and accuracy assessment at selected prone areas to enhance CRZ-2011guidelines.

**Young Scientist Aug 2010−July2012**

**Department of Science & Technology, New Delhi**

* Developed optical back-scattering algorithm for retrieval of coastal suspended sediment concentration from Ocean color monitor data, Oceansat IRS P4
* Investigated the process of ebb shoal evolution and subsequent morphological changes in ebb delta at port Dhamra, Orissa using high resolution temporal satellite data
* Determined effects of bathymetric changes on coastal morphology and sediment processes
* Areas of erosion and accretion, and shoreline change analysis in and around the study
* Indentified formation and migration of the sandy shoals in ebb-tidal delta
* Besides of the said research, taught postgraduate courses like Remote Sensing &GIS and Sedimentology at Andhra University.

**Infotech Pvt.ltd, (CYIENT Ltd), Hyderabad Oct 2008−Oct 2009**

* IHS Markit : Developed the most comprehensive US oil& gas wells database
* Data base all of the oil and gas exploration activities and production wells at USA
* IHS Upstream oil and gas solutions for exploration and production of crude oil and natural gas fields.

**Education**

# Jan 2009 Ph.D. in Remote Sensing Applications of Sediment morphodynamics Osmania University & National Remote Sensing, ISRO, Dept. of Space, Hyderabad

**Thesis title: *“Nearshore Morphodynamics and Sediment processes using Remote sensing Technology of Gahirmatha River inlets, Orissa, East coast of India”***

**2000-2001** University of Acharya Nagarjuna, Andhra Pradesh, *Bachelor of Education*

**1998-2000**  University of Andhra, Andhra Pradesh, *Master of Science in Geology (72%)*

**1995-1998** University of Acharya Nagarjuna, Andhra Pradesh, *Bachelor of Science in Geology*, *Physics and Mathematics (79%)*

**1993-1995** Inter Board, Hyderabad, *Intermediate in Mathematics, Physics and Chemistry (69%)*

**1992-1993** SSC Board, Hyderabad, *Senior Secondary in Natural social mathematical sciences (72%)*

**(Topper of the School/College/ University )**

**Research**

**Junior Research fellow (2000-2003)**

* Exploration of Multi–mineral Placer deposits in coastal sands of Nizampatnam Bay, East Coast of India

**Senior Research fellow (2003-2006)**

* RS&GIS Technology for Inlets Morpho-dynamics and sediment transportation estimation along East coast of India

**Post Doctoral Research (2010- 2015)**

* Multi-Temporal Satellite data studies on the impact of sedimentological processes and changes Ebb-shoal morphology at Dhamra port, Orissa, NE Bay of Bengal: Dept.Science&Technology
* Mapping and Delineation of Flood hazard zonation along Indian coast: A World Bank aided Research project

**Technical Qualification**

* + Post graduation Diploma in Exploration of Petroleum & Gas (Annamalai university)
  + Beach Placers/heavy mineral deposits Exploration ( OSTC, Tanjavur, TamilNadu)
  + Fundamentals of GIS, GIS Data Formats, Design and Quality ( University of California)
  + Principles of Remote sensing ( IIT Madras)
  + Basics of RS&GIS and GNSS (IIRS, ISRO)

**Fellowships and Awards**

**2000** University topper in Masters of Science

**2000** Junior Research Fellow at Andhra university, Vizag (sponsored by DoD, New Delhi)

**2003** Junior & Senior Research Fellow at NRSC, ISRO

**2003** Prof. Poornachandra Rao Award for the Academic & Research Excellence distinction

**2010** DST Young Scientist, Principal Investigator, SERB, New Delhi

**2021** Certificate of excellence in reviewing research articles by Journal of CJAST

**Professional Experience**

* **Oil & Gas Exploration :**  Worked as a Logging geologist for ONGC, OIL India Ltd., Cairn Energy, Geolog International B.V, Italy, Schlumberger at Gabon, West Africa
* **Beach Placer Mineral Exploration:** Worked as a consultant Exploration geologist for Taurian Company at Sri Lanka and India
* **Remote Sensing and GIS :**  Carried out various research projects using RS & GIS technologies at national and international level
* **Integrated Coastal Zone management:** Remote sensing and GIS technologies for ICZM
* **Environmental Impact Assessment :** Trained and Expert at MoEF&CC, New Delhi

**Publications Profile**

**Research articles in Peer-reviewed Journals**

1. **2004**: Near-shore distribution of Placer deposits along Nizampatnam, Krishna delta East coast of India. Jour., of Environmental Geo-Chemistry (ISSN 0972-0383), Vol.7. No2, pp.117-122
2. **2005**: Tsunami and its implications on coastal habitat, Jour. Marine Medical Society, Vol.7. No.1, pp.21-25(ISSN 0975-3605)
3. **2005**: Assessment of Pichavaram Mangrove Zonation and Degradation Processes, Jour., of Indian Associ., of Sedimentologists Vol.24, No.1&2, pp.99-104 (ISSN 0970-3268)
4. **2006**: Monitoring the degradation of the deltaic plane by human activity at central Godavari delta using remote sensing and GIS, Jour. of the Indian Academy of Geoscience, Vol. 49 No.2, p39-46. (ISSN 0379-5160)
5. **2008**: Understanding the suspended sediment dynamics in the Coastal waters of Bay of Bengal using high-resolution Ocean Colour data, Current Science,Vol.94,No.11, pp-1499-1503. (ISSN 011-3891)
6. **2009**: Hydrodynamic Processes and Heavy Mineral Distribution along Ekakula Beach, Gahirmatha Coast, NE Bay of Bengal, Journal of Indian Association of Sedimentologists, Vol 28, No1, pp.85-93(ISSN 0970-3268)
7. **2009**: Mapping Seasonal Suspended sediments dynamics and tidal propagation in the coastal waters of the Bay of Bengal using Ocean sat-I, ocean color monitor data. Journal of Indian Association of Sedimentologists. Vol.28, No2, pp101-106 (ISSN 0970-3268)
8. **2011**: Effect of the Bathymetric Changes on Hydrodynamic processes and Morphology at the inlets of Gahirmatha coast, NE Bay of Bengal. International Journal of Earth Sciences and Engineering, Vol. 04, No.08-Spl issue, pp.56-70. (ISSN 0974-5904)
9. **2011**: Monitoring of some observations of environmental stresses from satellite data, Proceedings of Journal of Indian mining and Engineering.Vol.21, pp 85-89 (ISSN 00195-944)
10. **2012**: Distribution of Heavy Minerals in Nizampatnam–Lankavani dibba Coastal sands, Andhra Pradesh, East coast of India. Journal of Geological society of India, Springer Nature Vol. 79, pp 411-418 (ISSN: 0016-7622; 2229-3574)
11. **2014**: Cerium, Thorium, and Zircon bearing minerals from Charnockites of Visakhapatnam, Eleswaram in the Eastern Ghats granulites belt, southern India. International Journal of Recent Scientific Research, Vol. 5, Issue, 5, pp.921-924, (ISSN: 0976-3031)
12. **2014**: Assessing Fire Risk in Forest Ranges of Guntur District, Andhra Pradesh: Using Integrated Remote Sensing and GIS. International Journal of Science and Research (IJSR) Vol.3, issue.6, June, pp 1328-32 (ISSN: 2319-7064)
13. **2015**: Areal extent of erosion or accretion in and around the Gahirmatha coast, NW of Bay of Bengal. Int., Jour. of Geo Sciences, Scientific research,Vol.6, No.7, 705-719,ISSN.2156-8359
14. **2019**: Statistical Analysis of Grain–Size Characteristics of Streambed Sediments in River Catchments of the Lake Tana Basin, NW Ethiopia, American Journal of Earth Sciences, 6 (1): 1-13. (ISSN: 2381-4624)
15. **2019**: Integrated Remote sensing and GIS-based Universal Soil Loss Equation for soil erosion estimation in the Megech river catchment, Tana lake sub-basin, Northwestern Ethiopia, American Journal of Geographic Information System. 2019.8(4):141-157. (ISSN:2163-1131)
16. **2020**: Integrated Remote sensing and GIS-based Universal Soil Loss Equation for soil erosion estimation in the Upland catchments of Tana lake sub-basin, Northwestern Ethiopia, Environmental Systems Research, Springer nature. 9:35, 1-32pp (ISSN: 2193-2697).

**Chapter in Edited Books**

1. **2006:** Tsunami impact on Coastal habitats of India: *The Indian Ocean Tsunami*, 393-405, Taylor and Francis, London. ISBN:978-0-415-40380-1
2. **2008:** Morpho-dynamics of Godavari Tidal Inlets: *Monitoring and modeling Lakes and coastal environments,* 237-243, Springer, Germany. ISBN: 978-1-4020-6645-0.

**Abstracts /Paper Presentations/Invited lectures in Symposia**

1. Heavy mineral studies of Nizamapatnam – Paresavanipalem coastal sands, East coast of India in proceedings of National conference of “Exploration of mining and processing of beach placers in India” held at Tuticorin in January **2002**
2. Hydro-Dynamic and sediment interaction at Gahirmatha tidal Inlet” in National symposium on Half-century progress in oceanographic studies of North Indian Ocean since Prof: LA FOND’S contribution (HAC PO) held at Visakhapatnam in December **2004**
3. Factors controlling ebb delta emergence along the Gahirmatha coast, Orissa, East coast of India using Remote Sensing data”. National symposium on Geosciences education –recent trends &challenges held at Osmania University, Hyderabad in December **2005**
4. Mapping seasonal sediment dynamics in the Bay of Bengal using Oceansat-IRSP4 Ocean Color monitor data” National symposium on Geochemistry of Earth resources and its bearing on their development, held at Osmania university, Hyderabad in January **2005**
5. Monitoring of some observations of environmental stresses from satellite” National seminar on Environment and sustainable development in mineral industry and solid waste management held at Visakhapatnam in March **2011**
6. Effect of the Bathymetric Changes on Hydrodynamic processes and Morphology at the inlets of Gahirmatha coast, NE Bay of Bengal. National seminar on development and sustainability of earth resources and environment at Rajahmundry, ANU, in March **2011**
7. Presentation on Land degradation in national conference on Environment& sustainable development by Society for Environment Sustainable development at New Delhi in Nov **2020**
8. International virtual workshop on GIS&RS for Environment Assessment by SESD, in Apr **2021**
9. SAR Application for flood hazard mapping and monitoring conducted by ISRO in **2021**.

**Trainings**

* 2000 : Beach Placer Mineral Exploration at OSTC, DOD, Thanjavur, Tamil Nadu
* 2004 : Remote Sensing &GIS at NRSC/ISRO, Hyderabad
* 2006 : Oil &Gas Explorations at OERC, MARITIME, Navy Mumbai
* 2006 : Logging Engineering for Petroleum Explorations, at OFI, Mumbai
* 2012 : Coastal Zone Management at NIO, Goa
* 2013 : CRZ, Integrated Coastal Zone Management at ASCII, Hyderabad.

**Affiliations**

* Reviewer for Journal of Applied Water Science, and Momona Ethiopian Journal of Science (MEJS)
* Reviewer for Current Journal of Applied science and Technology (CJAST)

**Computer Skills**

* GIS Software :AutoCAD, Esri Arc GIS 10.4, QGIS
* Image processing :ERDAS Imagine 9.2, Intergraph 2015; ILWIS 3.2, ENVI 5.6
* Operating Systems :Windows NT, Windows 2010, DOS,UNIX (a few things)
* Programming Languages :C language HTML, Java script (a few things)
* Statistical packages :SPSS IBM 20.0
* Graphics packages : MS Word, MS-Excel, PPT, Golden Suffer 8.0, Grapher
* GPS :Hand GPS, RTK GPS, DGPS
* Logging software’s **:** Geo desk, log viewer, Well works, Gews,
* Database software  **:** Citrix Enerdeq, EPS, IRIS, Wiser. Edge, Spotting (For oil & gas exploration)

**Certifications** **:** RS and GIS; Exploration of Petroleum; Mineral Exploration

**Languages** **:** Telugu, English, Hindi, Amharic (average)

**Hobbies :** Reading scientific articles and practicing flute

**Research interests**

* + - Flood hazard mapping and assessment

Fire risk assessment

Land use land cover change detection

Land degradation and Soil erosion estimation

Landslide susceptibility mapping and assessment

Morphometric analysis of watersheds

Aerial Photography with UAV

Grain size textures and mineralogy.

Shoreline changes and coastal morphology

Optically retrieval of Suspended sediment concentration

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