

Dwarakish G S

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Education

Ph. D., (Coastal Engineering, Remote Sensing & GIS), Institute of Remote Sensing, Anna University, Chennai, India (2001).

M.Tech. (Hydraulics) (1993), National Institute of Engineering, Mysore University, Mysore, India. Completed in First class with distinction.

B.Tech. (Civil Engineering) (1990), National Institute of Engineering, Mysore University, Mysore, India. Completed in First class with distinction.

College Education, National College, Basavanagudi, Bangalore, India.

High School Education, Ryots Education High School, Hanakere, Mandya, Karnataka, India.

Primary Education, Govt. Higher Primary Boys School, B. Gowdagere, Mandya, Karnataka, India.

Professional Experience

Date	Till Date	Position
27.03.2015		Professor and Head
17-02-2010	27.03.2015	Professor
17-02-2006	17-02-2010	Associate Professor
17-02-2003	17-02-2006	Assistant Professor
17-02-2000	17-02-2003	Senior Lecturer
17-02-1995	17-02-2000	Lecturer
08-08-1993	17-02-1995	Assistant Lecturer
1990	1991	Civil Engineer

Life Membership of Professional Bodies

Member	Indian Society of Remote Sensing (MISRS)	http://www.isrsindia.org/
Member [LM 712]	Indian Society for Hydraulics (MISH)	http://www.e-ish.net
Member [LM-628]	Indian Society of Geomatics (MISG)	http://www.isgindia.org
Member [LM 52236]	Indian Society of Technical Education (MISTE)	http://www.isteonline.com
Member [92950546]	Institution of Electrical and Electronics Engineers [IEEE]	http://ieee.org/
Member	Indian Association of Hydrology (MIAH)	http://www.nih.ernet.in/IAH.htm

Member [88543] Kannada Sahithya Parishath

Courses Taught

Under Graduate Level

Engineering Mechanics
Strength of Materials
Mechanics of Materials
Fluid Mechanics
Irrigation Design and Drawing
Remote Sensing & Geographical Information System
Geomatics Applications in Civil Engineering
Digital Image Processing
Strength of Materials Lab.
Fluid Mechanics Lab.

Post Graduate Level

General Oceanography
Principles of Remote Sensing
Geomatics Applications for Water Resources Engineering
Geomatics Applications for Coastal Engineering
Digital Image Processing
ICZMP
Digital Image Processing Lab.
Remote Sensing & Geographical Information System Lab.

Sponsored Research Projects Undertaken

Period	Title of the Project	Amount (Rupees) and Sponsored Agency	Status
1999-2001	Modelling of Suspended Sediment Concentration off Mangalore Coast (Joint Investigator)	5.0 Lakhs RESPOND Programme Indian Space Research Organisation, Dept. of Space, Govt. of India	Completed
2003 - 2005	Nearshore Processes Information System for Mangalore Coast- A RS and GIS Approach. (Principal Investigator)	10 Lakhs Ministry of Human Resources and Development, Govt. of India	Completed
2003- 2006	Management of Tidal Inlets along West Coast of India (Joint Investigator)	45 Lakhs Integrated Coastal Marine Area Management – Project Directorate (ICMAM-PD) , Department of Ocean Development (DOD), Govt. of India	Completed
2004 - 2011	Integrated Coastal Zone Management Plan for Karnataka Coast (Principal Investigator)	23 Lakhs Ministry of Environment and Forestry, Govt. of India	Completed
2006- 2011	RS & GIS Application for Sustainable Management of Sacred Grooves in Kodagu District (Principal Investigator)	11.65 Lakhs DST, Govt. of India, New Delhi, India.	Completed
2006- 2011	Analysis of Satellite Derived Wind and Wave Parameters of Karnataka Coast (Principal Investigator)	11.5 Lakhs RESPOND Programme Indian Space Research Organisation, Dept. of Space, Govt. of India	Completed

2014	Modelling of Sediment Transport in Near shore along Mangalore Coast using Conventional and Remote Sensing Data under GIS Environment	129.835 Lakhs Ministry of Earth Sciences (MoES), Govt. of India	Submitted
2014	Simulating the Impact of Land use Changes on Hydrological Response of Humid and Sub-humid Catchments in Karnataka state, India. (Principal Investigator)	14.80 Lakhs RESPOND Programme National Remote Sensing Center Dept. of Space, Hyderabad.	Submitted

Bachelors Degree (B.E./B.Tech.) Project Guided [13]

Master Degree (M.Tech.) Dissertation Guided [39]

Sl.No.	Title	Name of the student	Year	Placement of the Student
1	Soil Conservation and Watershed Management using Remote Sensing and GIS Techniques : A case study	M.Anisha	1995-1996	Assistant Executive Engineer, Govt. of Andhra Pradesh, Hyderabad, INDIA
2	Beach sediment characteristics along Mangalore coast	Raghavendra Majaker	1995-1996	Working in PWD, Kerala State
3	A study of sediment characteristics of Netravathi- Gurpur river estuary and neighbouring beaches	V. Raghupal Reddy	1997-1998	Working as a Marine engineer in Royal Haskoning- NewBombay
4	Shoreline change detection through an integrated approach : A case study	Mallikarjuna Rao. I	1998-1999	Tata Consultancy services, Present placement at USA
5	Modelling of Sediment Dynamics off Mangalore Coast through MIKE 21 and Remote sensing	Sankar Babu K	2001-2002	After completing his Ph.D. from IIT, Madras, now he is working in coastal engg. deptt. Govt. of Dubai.
6	Harbour area Information System (HIS) using RS and GIS	Suresh Naik	2003-2004	Working as a Design Engineer in coastal Engineering Software company, Pune
7	Coastal Zone Information System for Mangalore Coast using RS, GIS, and V.B.6.0.	Rajaram	2005-2006	Working as a Marine engineer in Royal Haskoning, New Bombay
8	Integrated Coastal Zone Management Plan for Udipi Coast Through RS and GIS	Vinay.S	2006-2007	Working as a Marine engineer in Royal Haskoning, New Bombay
9	Effect of Coastal Dams on Coastal Processes	Babita.M.K	2007-2008	Working for L & T construction company, Chennai
10	EIA Studies in Mangalore Coastal Zone	Angel Zeba	2007-2008	Working for Chemical Company in Chennai
11	Proximity Analysis for Mangalore City using Remote Sensing, GIS, GPS and VB 6.0	Namratha V.	2007-2008	Working for GIS Company at UK

12	Development of Sediment Yield Model for Periyar River Basin through RS, GIS & GPS	Preethi Jacob	2008-2009	Working as faculty at Dayanand Sagar College of Engineering, Bangalore
13	Modelling of Shoreline Configuration along NITK and Cochin Coast	Indu Shekhar	2008-2009	Working for Coastal Structures Construction Company
14	Modelling of Coastal Sediment Dynamics: A case study	Amruth Karjagi	2009-2010	Working for L & T Construction Company, Chennai
15	Study of Shoreline Configuration using Multi-date Satellite data for NITK Beach	Mohan Kumar	2009-2010	Working for GIS Company, Bangalore
16	Numerical modelling of Shoreline configuration – A case study	Ms. Arya Ratish	2010-2011	Working for L & T construction Company, Chennai
17	Applications of RS GIS and GPS for Sacred groves monitoring and management	Mr. Harish Kumar .S. [09RS07F]	2010-2011	Working for ITC, Bangalore
18	Groundwater level fluctuation along Mangalore coast through conventional and modelling approach	Mr. Suman B S [09WR10F]	2010-2011	Looking after his own construction company, Shimoga
19	Numerical Modelling of Sediment Dynamics: A case study	Ms. Pavithra N.R. 10MS14F	2011-2012	Working as a faculty in BIT, Bangalore
20	Shoreline Configuration Through Conventional Methods	Mr. Sabarimon	2011-2012	Working as a site Engineer, Kerala
21	Developments in Capital and Maintenance Dredging : NMPT	Mr. Sameer	2011-2012	Working as a site Engineer, Kerala
22	Study of Sediment Dynamics around Mulki-Pavanje Rivermouth through Statistical Analysis	Mr. Mrinal S Murali	2012-2013	Completed and working as Faculty
23	Planning of Marine Facilities for an LNG Terminal– A Case Study For the Development of An LNG Terminal in India	Mr. Rushith M D	2012-2013	Completed and working as Site Engineer
24	Prediction of Tides along Karwar Coast using Artificial Neural Networks	Mr. Shetty Rakshith	2012-2013	Completed and working as Design Engineer for TCE
25	Flood Risk Assessment in the Bagmathi and Adhwara River Basins, North Bihar Plains, India	Mr. Tilak N	2012-2013	Completed and Preparing for UPSC
26	Development of Flood Alert System	Mr. Uday Kumar	2012-2013	Completed and working as a RS specialist
27	Development of Algorithm for the Study of Sediment Dynamics Through Sediment Trend Analysis: A Case Study of Mangalore Coast, West Coast of India	Mr. P Sri Ram Kumar	2013-2014	Completed and working for L & T Chennai
28	Wave Forecasting along Karnataka Coast using Artificial Neural Networks	Ms. Deepthi I Gopinath	2013-2014	Completed and working as Assistant Professor

29	Application of Neural Network Model for LU/LC Classification of Satellite Image	Ms. Nujuma Nazimudhin	2013-2014	Completed and working as Assistant Professor
30	Impact of Regional Economic Growth on Spatial Development, Case Study of Dakshina Kannada and Udupi Districts (Karnataka)	S D Suman	2013-2014	Completed and Working for Software company Bangalore
31	Prediction and Analysis of Land/Land cover Dynamics with respect to driving factors in Netravati and Harangi river basin	Gayathri K Devi	2014-2015	Completed and working as Assistant Professor
32	Flood Inundation Mapping for Bangalore urban area	Rajeesh R	2014-2015	Completed and working as Assistant Professor
33	Prediction of Tides along Karnataka Coast using PSO and Support Vector Machine	Akhil M	2014-2015	Completed and working as Assistant Professor
34	Wave Forecasting along Karnataka Coast using PSO and Support Vector Machine	Liju K V	2014-2015	Completed and Working for Software company
35	Assessment of Wave Energy Potential along West Coast of India through Numerical Modelling	Justin Thomas T	2014-2015	Completed and Working for Software company
36	Shorline Change Configuration and Coastal Protection along Undivided Dakshina Kannada Coast- An Integrated Approach	L. Revanth Reddy	2015-2016	Completed and working as Engineer in L & T, Chennai.
37	Coastal Sediment Dynamics through Numerical Modelling	Shabnum Suhura Shamsudeen	2015-2016	Completed and working as Assistant Professor
38	Hydromechanics study for Netravathi Catchment Area	Fashamol T. M.	2015-2016	Completed and working as Assistant Professor
39	Prediction and Forecasting of Ocean Parameters through Soft Computing Techniques- A case study	Nithyapriya . B.	2015-2016	Completed and persuing her Ph.D. At IIT Bombay, Mumbai, under IITB-Monash Programme.

Master Degree (M.Sc.) Dissertation Guided [07]

Sl.No.	Title	Name of the student	Year	Placement of the Student
1.	Web Based Information System For New Mangalore Port Trust	Shwetha Nayak	2004-2005	Working as a faculty in Udupi
2.	Coastal Zone Information System for D.K. Coast	Nisha	2005-2006	Working as a faculty in Mangalore University
3.	NITK Information System	Shakila	2005-2006	Working in Software company
4.	Coastal Zone Information System For Udupi Coast	Amrithkala M. Shetty	2006-2007	Working as a faculty in Mangalore University
5.	Integrated Modelling Approach for Shoreline Monitoring and Management	Aashvija	2008-2009	Working for KRSRAC, Mangalore
6.	Integrated Modelling Approach for Sediment Yield Estimation for	Supriya J Anchan	2008-2009	Working for SOI, Bangalore

Periyar River Basin

7. A study on beach morphology and shoreline changes along dakshina Kannada Coast Vijay Laxmi 2013-2014 Mangalore University, Mangalore

Ph.D. Research Supervision [16]

Sl. No.	Name of Student	Reg. Year and Status (FT/PT)	Thesis Title	Other Supervisor's Name & Dept.	Completed [placement]/ Ongoing
1	Jagadeesha Pai B	Full Time Institute Scholar 2004	Analysis of Satellite derived wind and wave parameter	Prof. A. Vittal Hegde, NITK-Surathkal.	Completed and working as a faculty at MIT Manipal.
2	Ashok Kumar T	Part Time 2004	Advanced Techniques of Digital Image processing to Improve the Understandability of RS data	Prof. Shivaprakash Koliwad MCE –Hassan.	Completed and working as a Principal of VCET, Puttur.
3	Rajagopal B	Q.I.P. Full Time [Polytechnic] 2005	Studies on land use/land cover changes and water quality due to urbanization along the coastal areas of Dakshina Kannada district, Karnataka, India	Dr. Srihari. S NITK-Surathkal.	Completed and working as a Principal in Plytechique college in A.P.
4	Abdurahiman K U	Q.I.P. Full Time [KUSAT] 2006	River runoff and sediment flow changes induced by dams in Periyar river basin, Kerala, India	NIL	Completed and working as a faculty at CUSAT, Cochin
5	Shushma S B	Part Time (Under Project)-2008	Development of Sacred Groves Information System for Kodagu District using RS & GIS	Dr. K. B. Kiran	Completed and working as Scientist in Mines and Geology, GoK
6	Gumageri Nagaraj	Institute Fellowship-Full Time -2009	Study of Geomorphology and dynamics of shoreline associated with Mulki-Pavanje rivermouth, Dakshina Kannada Coast, Karnataka, India	NIL	Completed and working as a faculty in BIT, Mangalore
7	Gowthaman R	Part Time – 2010	Modelling of shoreline configuration along Dhanushkodi Coast, East Coast of India	NIL	Completed and working as a fScientist, NIO, Goa
8	Raju A	Institute Fellowship-FullTime-2011	Development of Contrat Enhancement Algorithms for Coastal Satellite Images	Prof. D V Reddy, NITK - Surathkal	Completed and persuing his PDF in Japan
9	Ganasri B P	PGRA-Institute Fellowship-TEQIP-Full Time -2012	Simulating the Impacts of Land Use cahnges on Hydrological Response of Humid and Sub-humid Catchemnts in Karnataka State, India	Nil	Thesis submitted
10	Arega Mulu	Ethiopian	Modeling of Stream flow,	Nil	Thesis

		Government Fellowship-2013-2016	Sedimentation and Assessing Impacts on Gilgel Abay River Basin, Upper Blue Nile, Ethiopia		submitted
11	Preeti jacob	Part Time 2014	Flood Inundation and Flood Zonation Mapping using RS & GIS : A case study of Bangalore urban area	Nil	Ongoing
12	Dayanand Shetty	Part Time 2015	Port Management	Nil	Ongoing
13	Arun Kumar yadav	Institute Fellowship-FullTime-2015	River and Coastal Sediment Dynamics: A case study of Kali River	Dr. B M Dodamani	Ongoing
14	Pruthvin Shetty	Institute Fellowship-FullTime-2011	Selection of suitable site for Smart City through geoinformatics approach	Nil	Ongoing
15	Abiot Ketema Demmsie	Ethiopian Government Fellowship-2013-2016	Rainfall-Ruonoff Modelling through Remote Sensing and GIS	Nil	Ongoing
16	Tejaswini	Institute Fellowship-FullTime-2011	Identification of Geound Water Potential Zone through geoinformatics appraoch	Prof. K N Lokesh	Ongoing

List of Publications (171)

	International	National
Journal papers	44	14
Conference/workshop/Symposium publications	45	68

International Journals [44]

- 2016** Deepthi I Gopinath, **Dwarakish. G .S** (2016). Real time prediction of waves using neural networks trained by particle swarm optimization. International Journal of Ocean and Climate Systems, SAGE Publications, UK. (Will be appearing in October issue of the year: 2016).
- 2015** Vikas M and **G S Dwarakish** (2015). El Nino: A Review. International Journal of Earth Sciences and Engineering, Vol. 8, No. 2, pp.130-137.
- B Shushma Shashi, G S Dwarakish and K B Kiran (2015). GIS for Conservation of Sacred Groves of Kodagu District – A Traditional Culture. International Journal of Earth Sciences and Engineering, Vol. 8, No. 2, pp. 377-385.
- Dwarakish G S** and Ganasri B P (2015). Impact of land use change on hydrological system: A review of current modeling approaches. Cogent Geoscience, Vol. 1, No. 1, pp. 1-18. (DOI:10.1080/23312041.2015.1115691).
- Rajamanickam Gowthaman, V. Sanil Kumar, **Gowdagere Siddaramaiah Dwarakish**, P.R. Shanasa, Basanta Kumar Jena and Jai Singh (2015). Nearshore waves and longshore sediment transport along Rameshwaram Island off the east coast of India. International Journal of Naval Architecture and Ocean Engineering, Vol.7 No.6. pp. 939-950.
- Deepthi I Gopinath and **Dwarakish G S** (2015), [Wave Prediction Using Neural](#)

[Networks at New Mangalore Port along West Coast of India](#), Aquatic Procedia, International Conference on Water Resources, Coastal and Ocean Engineering (ICWRCOE'15), Vol. 4, pp. 143-150. **[Got the Best paper award for the presentation-ICWRCOE'15].**

R. Rajeesh and **Dwarakish G S** (2015), Satellite Oceanography: A Review, Aquatic Procedia, International Conference on Water Resources, Coastal and Ocean Engineering (ICWRCOE'15), Vol. 4, pp. 165-172.

Dwarakish G S and Akhil Muhammad Salim (2015), Review on the role of Ports in the Development of a Nation, Aquatic Procedia, International Conference on Water Resources, Coastal and Ocean Engineering (ICWRCOE'15), Vol. 4, pp. 295-301.

M. Vikas and **Dwarakish G S** (2015), Coastal Pollution: A Review, Aquatic Procedia, International Conference on Water Resources, Coastal and Ocean Engineering (ICWRCOE'15), Vol. 4, pp. 381-388.

Justin Thomas T and **Dwarakish G S** (2015), Numerical wave modelling – A review, Aquatic Procedia, International Conference on Water Resources, Coastal and Ocean Engineering (ICWRCOE'15), Vol. 4, pp. 443-448.

Raju A, **Dwarakish G S** and Venkat Reddy D (2015), Automatic Shoreline Detection and Change Detection Analysis of Netravati-Gurpur Rivermouth using Histogram Equalization and Adaptive Thresholding Techniques, Aquatic Procedia, International Conference on Water Resources, Coastal and Ocean Engineering (ICWRCOE'15), Vol. 4, pp. 563-570.

Gayathri K Devi, Ganasri B P and **Dwarakish G S** (2015), Applications Of Remote Sensing In Satellite Oceanography: A Review, Aquatic Procedia, International Conference on Water Resources, Coastal and Ocean Engineering (ICWRCOE'15), Vol. 4, pp. 579-584.

Arega Mulu and **Dwarakish G. S** (2015), Different Approach for Using Trap Efficiency for Estimation of Reservoir Sedimentation. An Overview, Aquatic Procedia, International Conference on Water Resources, Coastal and Ocean Engineering (ICWRCOE'15), Vol. 4, pp. 847-852.

Gayathri K Devi, Ganasri B P and **Dwarakish G S** (2015), A Review on Hydrological Models, Aquatic Procedia, International Conference on Water Resources, Coastal and Ocean Engineering (ICWRCOE'15), Vol. 4, pp. 1001-1007.

Ganasri B P and **Dwarakish G S** (2015), Study of Land Use/Land Cover Dynamics through Classification Algorithms for Harangi Catchment Area, Karnataka State, INDIA, Aquatic Procedia, International Conference on Water Resources, Coastal and Ocean Engineering (ICWRCOE'15), Vol. 4, pp. 1413-1420. **[Got the Young Scientist and Best paper award for the presentation-ICWRCOE'15].**

Preeti Jacob and **Dwarakish G S** (2015), Temporal Analysis of Spatial Distribution of Built-Up Area in Peri-Urban Areas of Cochin, Kerala: Case-Study of Sub-Watershed in Periyar River, Aquatic Procedia, International Conference on Water Resources, Coastal and Ocean Engineering (ICWRCOE'15), Vol. 4, pp. 1445-1451.

P. Sri Ram Kumar, **Dwarakish G S**, N Nujuma and D I Gopinath (2015), Long Term Study of Sediment Dynamics Along Mangalore Coast, West Coast of India Using Sediment Trend Analysis, Aquatic Procedia, International Conference on Water Resources, Coastal and Ocean Engineering (ICWRCOE'15), Vol. 4, pp. 1545-1552.

2014 Ganasri B P and **Dwarakish G S** (2014). Analysis of Land Use/Land Cover distribution using Remote Sensing and GIS: A case study of Mulki river basin, Karnataka. International Journal of Earth Sciences and Engineering, Vol. 7, No. 2, pp. 420-426.

A Raju, **G S Dwarakish** and D Venkat Reddy (2014). A Comparative Analysis of Histogram Equalization based Contrast Enhancement Techniques for Detection of Shoreline using Satellite Images. International Journal of Earth Sciences and

Engineering, Vol. 7, No. 2, pp. 522-529.

Rakshith, S. and **Dwarakish, G. S.** and Usha Natesan (2014), Tidal-Level Forecasting Using Artificial Neural Networks along West Coast of India, Japan Society of Civil Engineers (JSCE) Vol. 2, pp. 176-187.

Shushma Shashi.B, Dwarakish G. S., Kiran K.B. (2014), An open-source web-GIS application for prioritization and conservation of Sacred Groves of Kodagu district of Karnataka, Int. Journal of Applied Sciences and Engineering Research, Vol. 3, No. 4, pp. 763-775.

2013 Rakshith, S. and **Dwarakish, G. S.** (2013), Review on Applications on Neural Networks in Coastal Engineering, International Journal of Artificial Intelligence Systems and Machine Learning, Vol. 5, No. 7, pp. 324-331.

Rakshith, S. and **Dwarakish, G. S.** (2013), Prediction of Tides using Neural Networks at Karwar, West Coast of India, Development and Applications of Oceanic Engineering, Vol. 2, No. 3, pp. 77-85.

Ganasri BP, Raju A, and **G S Dwarakish**, (2013), Different Approaches for Land Use Land Cover Change Detection: A Review, Research and Reviews: Journal of Engineering and Technology, Vol. 2, No. 3, pp. 44-48.

Raju.A., **Dwarakish G.S.** and D Venkat Reddy, (2013), A Comparative Analysis of Histogram Equalization based Techniques for Contrast Enhancement and Brightness Preserving, International Journal of Signal Processing, Image Processing and Pattern Recognition, Vol. 6, No. 5, pp 353-366.

Raju.A., **Dwarakish G.S.** and D Venkat Reddy, (2013), A state-of-the-art and comparative analysis of mean brightness preserving histogram equalization based contrast enhancement techniques, *Intl. Journal of Remote Sensing and GIS*, Vol.2, No.1, pp. 41-51.

2012 Rajagopal Bhagyanagar, Babita M. Kawal, **Gowdagere S. Dwarakish**, and Shrihari Surathkal, (2012) , "Land use/land cover change and urban expansion during 1983–2008 in the coastal area of Dakshina Kannada district, South India" Journal of Applied Remote Sensing, Vol. 6, pp. 063576-1 - 17.

Subba Rao, Arkal Vittal Hegde, **Dwarakish G. S.**, Prashanth J and D. V. Reddy , (2012), Seawalls: Performance and their failure analysis along Southern Karnataka, West Coast of India, *Intl. Journal of Earth Sciences and Engineering (IJEE) and Elsevier publications*, vol. 05, No. 01, February 2012, pp. 18-29.

Gumageri Nagaraj, **Dwarakish G. S.**, (2012), Sreenivasulu Dandagala and Usha Natesan (2012), Neural Network for Ocean Wave Forecasting, *CiiT Intl. Journal of Artificial Intelligent Systems and Machine Learning*, Vol. 4, No.3, pp. 350-353.

2011 Gumageri Nagaraj, Mohan Kumar K N and **Dwarakish G. S.** (2011), Land Use and Land Cover Changes around the Rivermouths of Mangalore, West Coast of India, *Intl. Journal of Earth science and Engineering*, Vol. 4, No.6, pp. 167-172.

Gumageri Nagaraj, Amruth Karjagi, Mohan Kumar and **Dwarakish G. S.** (2011), Geomorphological behaviour of Sasihithlu, Mangalore Coast, West Coast of India, *Intl. Journal of Earth science and Engineering*, Vol. 4, No.3. pp. 467-476.

Gumageri Nagaraj and **Dwarakish G. S.** (2011), Shoreline Changes along the Mangalore Coast, West Coast of India. *Intl. Journal of Earth science and Engineering*, Vol. 4, No. 3, pp. 63-70.

A. M. Kamath, Varun V.M., **Dwarakish G.S.**, Kavyashree B, and Shwetha H.R. (2011), Kirpich and Williams Times of Concentration in MUSLE: A Case Study, *ISH Journal of Hydraulic Engineering*- Vol.17, No.2, pp. 1-13.

2010 Jagadeesha Pai.B., Raj Kumar, Abhijit Sarkar, A.Vittal Hegde and **Dwarakish G.S.** (2010). Determination of mixed layer depth from C-band synthetic aperture radar, *Intl. Journal of Imaging*, Vol.3, S10, 76-83.

- Dwarakish G. S.**, Usha Natesan, Shailesh R. Nayak, Prakash Chauhan and C.R.C. Nagur (2010), Analysis of IRS-P4 OCM Data for Estimating the Suspended Sediment Concentrations along the Mangalore Coast, India, *Intl. Journal of Imaging*, Vol. 03, No. S10, 23-40.
- 2009 Dwarakish G. S.**, Vinay S. A., Usha Natesan, Toshiyuki Asano, Taro Kakinuma, Katta Venkataramana, B. Jagadeesha Pai and Babita M.K. (2009), Coastal Vulnerability Assessment of the Future Sea-Level Rise in Udupi Coastal Zone of Karnataka State, West Coast of India, *Intl. Journal of Ocean & Coastal Management*, Vol. 52, 467-478. [IF:1.524]
- Shushma Shashi B, Preeti Jacob, **Dwarakish G. S** and Abdu Rahiman. K. U (2009), RS and GIS Applications in LU/LC Change Detection and Flood Zonation Studies for Coastal Zone of Dakshina Kannada District, India, *Intl. Journal of Earth Science and Engineering*, Vol.2, No.6, pp. 596-606.
- [K. U. Abdu Rahiman and Dwarakish G. S.](#) (2009), [Hydrological](#) Changes Associated with the Dams in Periyar River Basin, Kerala, India, *Intl. Journal of Earth Science and Engineering*, Vol.2, No.3, 224-230.
- Devappa V.M., Khageshan P., Mise S.R. and **Dwarakish G.S.** (2009), Meteorological Drought Events- A Case Study of Gulbarga District in Karnataka, India, *Intl. Journal of Earth Science and Engineering*, Vol.2, No.2, 165-172.
- Jagadeesha Pai.B., Raj Kumar, Abhijit Sarkar, Suchandra Aich Bhowmick, A.Vittal Hegde and **Dwarakish G.S.** (2009), Wind and wave parameters of west coast of India using Synthetic aperture radar data. *Intl. Journal of Earth Science and Engineering*, Vol.2, No.2, 125-134.
- 2008** Hegde A. V., **Dwarakish G.S.** Asano Toshiyuki, Taro Kakinuma, Usha Natesan and Mahesh.K. (2008). Land Use/Land Cover Change Detection in the Local Planning area of Mangalore City- A Remote Sensing Approach. *Intl. Journal of Earth Science and Engineering*, Vol.2, pp. 80-85.
- T. Ashok Kumar,, Shiva Prakash Koliwad and **Dwarakish G.S.** (2008), Effectiveness of Decision Tree Algorithm in Land Use/Land Cover Classification of NITK Surathkal Campus Using High resolution Satellite Data. *Intl. Journal of Earth Science and Engineering*, Vol.2, pp. 56-65.
- [K. U. Abdu Rahiman, Dwarakish G. S. and Babita M Kawal](#) (2008), [Changes in Land-Ocean Sediment Flux due to the Interference of Dams](#), *Intl. Journal of Earth Science and Engineering*, Vol.1, pp. 17.23.
- Dwarakish G. S.**, S. A. Vinay, S. M. Dinakar, Jagadeesha B. Pai, K. Mahaganesha, and Usha Natesan (2008) Integrated coastal zone management plan for Udupi coast using remote sensing, geographical information system and global position system, *Online Journal of Applied Remote Sensing*, SPIE, Vol.2.[DOI: 10.1117/1.2919101],023515, 1-22. [IF:1.0]
- 2005 Dwarakish G.S.** and Usha Natesan (2005), Prediction of shoreline evolution by statistical analysis of beach samples and surveys at New Mangalore Port. *Water and Energy International Journal*, Vol.62, No.2, pp.37-43.

National Journals [14]

- 2015** Sushma Shashi B and **Dwarakish G S** (2015), GIS and Open Geosuite for sacred groves of Kodagu District, i-manager's Journal on Civil Engineering, Vol. 5 No. 3, pp. 7-15.
- G.S Dwarakish**, K.V Liju, Akhil Muhammad Salim, Gayathri K Devi, Justin Thomas, and R. Rajeesh (2015). Application of Artificial Neural Networks for the Estimation of Wave Parameters. i-manager's Journal on Computer Science, Vol.2, No 4. pp. 30-37.
- 2014** R Gowthaman, **G S Dwarakish** and V Sanilkumar (2014), Land use/Land cover changes around Rameshwaram Island, East Coast of India, *Indian Journal of Geo-*

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2007 Jagadeesha Pai B, Rajkumar, A. Vittal Hegde and **Dwarakish G.S.** “Extraction of High-resolution wind fields from C-band Synthetic Aperture Radar (SAR) data, *Proc. METOC – 2007*, CUSAT, Cochin, May 2007, pp.277-282.

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2006 Rajagopal. B, Srihari. S and **Dwarakish G.S.** (2006). “Remote Sensing and GIS for EIA’: State –of –art”, *Proc. National Conference on Environmental Conservation [NCEC-2006]*, BITS – Pilani, September 2006, India. pp. 705-711.

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2005 **Dwarakish .G.S.** S.G.Mayya., A. Vittal Hegde, Shwetha Nayak., Jagadeesha Pai B and Rajani K. S. (2005). Web based system for New Mangalore Port Trust. All India National seminar on Ports & Ships Partners in Marine Transport, 12-13th November, 2005, NMPT, Mangalore. PP. 86-92.

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Dwarakish G. S., Chandrashekar K. P., Chandrashekar A., Jagadeesha Pai B, Usha Natesan, (2004), "Identification of suitable site for solid waste disposal using remote sensing and GIS – A case study", *Proc. 24th ISRS Annual Convention and National Symposium on converging space technologies for national development*, Jaipur, India, November 3-5, 2004, PP 220.

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Subba Rao., Kiran G. Shirlal., **Dwarakish G.S.**, Radheshyam B., (2003), 'Granulometric Studies of Beach Sand near NITK, Suratkal', *Proc. National Seminar on "Coastal Dynamics and Role of Geoinformation with special reference to Indian Peninsula"*, organized by Mangalore University, Karnataka, India, 2003, pp.18.

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Dwarakish G.S., Usha Natesan, Jegankumar R., Mallikarjuna Rao I., (2000), 'Geomorphology and Confluence Width Changes of Rivermouths by Remotely Sensed Data - Mangalore Coast', *Proc. National Conference on Geoinformatics 2000*, Coimbatore, November 2000, pp.1-5.

Rao N.B.S., **Dwarakish G.S.**, Mallikarjuna Rao I., (2000), 'Shoreline Change Detection through an Integrated Approach: A Case Study', *Proc. National Conference on Hydraulics and Water Resources (HYDRO '2000)*, Kurukshetra, October 2000, pp.351-357.

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Dwarakish G.S., Natarajan T., Usha Natesan., (2000), 'Integrated Coastal Zone Management of Mangalore Coast Using RS and GIS Techniques: A Review', *Proc.*

- 1999** *ISRS Symposium on Remote Sensing Application for Natural Resources*, Bhubaneswar, March 2000, pp.100-104.
- 1999** **Dwarakish G.S.**, Anisha M.,(1999), 'Prioritization of Micro watersheds by Remote Sensing and GIS Techniques: A case study', *Proc. National Seminar on Watershed Management for Sustainable Development*, Tirupathi, March 1999.
- 1997** Dattatri J., Rao N.B.S., Subba Rao., **Dwarakish G.S.**, Nagendra Kumar B., (1997), 'Beach Profile Studies along Dakshina Kannada Coast of Karnataka State', *Proc. Second Indian National Conference on Harbour and Ocean Engineering (INCHOE-97)*, Thiurvananthapuram, December 1997, pp.1135- 1144.
- Dattatri J., Rao N.B.S., Nagendra Kumar B., Subba Rao., **Dwarakish G.S.**, (1997), 'Coastal Erosion along Dakshina Kannada Coast, Karnataka, India', *Proc. National Seminar on Coastal Zone Environment Management: An Appraisal of the Contemporary Research and Development*, Mangalore, India, February 1997.

Conferences / Seminars / Workshops attended (Last 5 years [22])

Year	Conferences / Seminars /Workshops attended	Title of paper presented
2014	Introduction to CAD/CAM and STAAD, Centre for Continuing Technical Education in karnataka, Batwal during 3 July, 2014	RS an dGIS for Civil Engineering,
	Introduction to CAD/CAM and STAAD, Centre for Continuing Technical Education in karnataka, Batwal during 23 June, 2014	Effective Teaching Methodologies/Engineering Mechanics
	Certificate Course on Mining Survey (CCMS), Dept. of Mining Engineering, NITK, Surathkal, during July, 2014	CCMS on Remote Sensing and GIS
	Ananul Conference on Innovations and Developemnts in Civil Engineering (ACIDIC-2014), Departemnt of Civil Engineering, NITK, Surathkal, 19-20 May, 2014	Geoinformatics for Civil Engineering
	Faculty of Science, Technology, Engineering and Mathematics (FOSTEM), INTI International University, Kaula Lumpur, Malaysia during April, 2014	Geoinformatics for Coastal Engineering
	3 days technical fest SRISHTI 2K14, Department of Civil Engg., LBS College of Engineering, Kasaragod during 13,14 and 15 March 2014	Remote Sensing and GIS in Civil Engineering
	2014 IEEE Region 10 Technical Symposium, during 14-16, 2014, Kaula Lumpur, Malaysia	Satellite Image Contrast Enhancement Algorithm based on Plateau Histogram Equalization
	Short term Course on Advnaces an dLatest Developments in Mining Geology and Rock Mechanics (STCMGRM-2014), during 02-04, April, 2014	Geoinformatics for Civil and Mining Engineering
	National Workshop on Civil Engineering Challenges in 21st Century (CEC21-2014), Department of Civil Engineering, Managlore Institute of Technology and Engineering (MITE), Moodabidri. Mangalore during 21-22 February, 2014	Geoinformatics for Civil Engineering

Fifth Indian National Conference on Harbour and Ocean Engineering (INCHOE 2014), NIO, Goa, 5-7 February, 2014

Study of Coastal Sediment Dynamics and Sand Spit Morphology Around Netravati – Gurpur Rivermouth Through Integrated Approach

2013

National Conference on New Horizons in Civil Engineering (NHCE-2013), Department of Civil Engineering, Manipal Institute of Technology, Manipal, Karnataka, 12-13 April, 2013

Sediment Trend Analysis and Determination of Sediment Movement Patterns Along Coastline in the vicinity of Mulki-Pavanje River Mouth

National Seminar on Coastal Environments and their Management, Department of Marine Geology, Mangalore University, 22-23 January, 2013

Coastal erosion and mitigation measures along Mangalore Coast, South West Coast of India

International Conference on Conserving Biodiversity for Sustainable Development (INCCBSD 2013), DBME, NIT Rourkela, during 16-18, August, 2013

RS and GIS Tools to Support Conservation and Sustainable Management of Sacred Groves in Kodagu District, Karnataka, India

2012

National Workshop on Conservation of West Flowing Rivers in Coastal Karnataka, Department of Applied Mechanics and Hydraulics, NITK, Surathkal and Dept of Civil Engg., VCET, Puttur, during 14-15 December, 2012

Geoinformatics for Water Resources Engineering

2011

National Conference on Coastal Hazards, Resources & Management, Department of Marine Geology, Mangalore University, Mangalagangothri, Karnataka, India, 25 & 26 March, 2011.

Integrated Coastal Zone Management [ICZM] – An Indian Scenario.

National Conference on Coastal Hazards, Resources & Management, Department of Marine Geology, Mangalore University, Mangalagangothri, Karnataka, India, 25 & 26 March, 2011.

Development of DEM Using ERDAS Imagine 9.0 and ArcGIS 8.3 for mangalore Coastal Zone, Dakshina Kannada District, Karnataka, India.

National Conference on Coastal Hazards, Resources & Management, Department of Marine Geology, Mangalore University, Mangalagangothri, Karnataka, India, 25 & 26 March, 2011.

Spit Evolution in the vicinity of Mulki-Pavanje Rivermouth, West Coast of India.

2010

National conference on Sustainable Water Resources Management [SwaRM 2010], NITK-Surathkal, India, 7th -9th January 2010.

Determination of Global Water Quality Indices for River Nethravati, South India..

National conference on Sustainable Water Resources Management [SwaRM 2010], NITK-Surathkal, India, 7th -9th January 2010.

Variable Source Area Watershed Model for Konganahole Catchment Area in Western Ghats

National Conference on Coastal Processes, Resources and Management, CESS, Thiruvananthapuram, Kerala, India, 5-7th February 2010.

A study on Variations in the Sediment Dynamics along the Dakshina Kannada Coast, West Coast of India.

2009

Theme meeting on retrofitting & Rehabilitation of Structures (TMRRS) and International Seminar on Structural Rehabilitation, NITK Surathkal, 30-31

March, 2009.

International Conference in Ocean Engineering Interference of Dams in Periyar
[ICOE- 2009], IIT Madras, India, 1-5th February 2009. River Basin, Kerala, on Coastal
Sedimentation.

National Workshop on Present and Future Trends in
Marine Geology and Geophysics, Mangalore ---
University, India, 21-22nd April 2009.

KSCST- 32nd Series of Student Project Programme
[SPP], Seminar cum Exhibition, NITK-Surathkal, ---
India, 4-5th September 2009.

24th Indian Engineering Congress, NITK-Surathkal, Land Use Land Cover Change
India, 10-13th December 2009. Detection Using Digital Image
Processing

39th ISTE Annual Convention, NITK-Surathkal, ---
India, 18-20th December 2009

2008

KU-NITK Joint seminar 2008- Recent Advances in
Engineering & Technology, June 26, 2008, Inamori ---
Auditorium, Kagoshima University, Japan.

International Conference on Content Based Image Decision tree: A non-parametric
Retrieval, PES Institute of Technology, Bangalore, approach for classification of
India, 16-18th July 2008. High-resolution remote sensing
data.

3rd International Conference on Advanced Effectiveness of decision tree
Computing & Communication Technologies, Asia algorithm in classification of semi
Pacific Institute of Information Technology SD urban land cover classes 2-5m
India, Panipat, 08-09th November 2008. resolution satellite imagery.

National Conference on Hydraulics, Water Changes in Hydrology and
Resources & Environment HYDRO 2008, Anuvrat coastal sedimentation by Dams –
Vishwarbharti, Jaipur, India, 15-16th December A case study.
2008.

2007

Indo- Japan workshop on Coastal Problems and
Mitigation Measures – Including the effects of ---
Tsunami, IIT Madras, 16-17th July 2007.

SPIE Remote Sensing International Integrated Coastal Zone
Conference, Florence, Italy, September, 17-21, 2007. Management Plan and Coastal
Zone Information System for
Udupi Coast, West Coast of India

2006

Initiative for Research and Innovation in Science Assessment of potential locations
[IRIS-2006] for offshore wind energy

SPIE- 5th Asia Pacific Remote Sensing International Integrated Coastal Zone
Symposium, Marriot Hotel, Panjim, Goa, India, 13- Management system for
17th November 2006. Mangalore Coast west coast of
India

SPIE- 5th Asia Pacific Remote Sensing International Comparative study of ocean wave
Symposium, Marriot Hotel, Panjim, Goa, India, 13- spectrum using ENVISAT SAR
17th November 2006. data and wave rider buoy data

National conference on Rehabilitation Measures for
the Tsunami affected Coasts of Tamilnadu, Andhra ---

Pradesh, Kerala, Pondicherry and Andaman & Nicobar Islands, IIT Madras. 11-12 December 2006.

Books, Monographs, Lab or Design Manuals – Authored/Edited

- 1 Guest Editor - Elsevier Aquatic Procedia-Special Issue on ICWRCOE'15
- 2 Guest Editor-In-Chief for Special Issue on RS & GIS Applications, International Journal of Earth Sciences and Engineering
- 3 Lecture Volume prepared for the Two Days Curriculum Workshop on Geoinformatics in Coastal and Water Resources Engineering. Department of Applied Mechanics and Hydraulics, NITK, during 23-24 September 2013 (Coordinator: **Dr. G S Dwarakish**)
- 4 Lecture volume prepared for the training programme sponsored by TEQIP on ETMS'10 (2010), held at GEC, Goa. (Coordinators: **Dr. G S Dwarakish**, Dr. K B Kiran, Dr. B M Dodamani, Dr. V N Shet, Dr. Ulhas Sawaikar and Dr. Vanessa.C)
- 5 Prepared the complete PPTs for the two subjects namely Remote Sensing & GIS and Digital Image Processing.
- 6 Contributed two research papers for the book titled "Coastal Environments: Problems and perspectives" Edited by K.S.Jayappa and A.C.Narayana, 2009.
- 7 Lecture volume prepared for the summer School sponsored by AICTE-MHRD on ETMS'10 (2010). (Coordinators: **Dr. G S Dwarakish** & Dr. K B Kiran)
- 8 Lecture volume prepared for the winter School sponsored by AICTE-MHRD on GIRBD'09 (2009).
- 9 Lecture volume prepared for the winter School sponsored by AICTE-MHRD on GICZMP'09 (2009).
- 10 Written complete chapter on Geographical Information System (GIS) in the text books one on "Applied Geology" and another on 'Engineering Geology' by Prof. D. Venkat Reddy.
- 11 Lecture Volume prepared for the "Workshop on Wetland Monitoring and Management" sponsored by TEQIP, conducted in our department. Coordinators: Prof. Arkal Vittal Hegde and **Dr. G. S. Dwarakish**).
- 12 Lecture volume prepared for the workshop on 'ICZMP-D.K and Udupi Coast' Sponsored by MOEF, 'RS & GIS' Course and GPS Course sponsored by TEQIP, MHRD, Govt. of India.

Technical Reports (External & Internal)

Authors	Title of Report	Particulars (Sponsored R&D/ Consultancy/ Status Reports, etc.)
Dr. G.S. Dwarakish (P.I.)	Simulating the Impact of Land Use Changes on Hydrological Response of Humid and Sub-Humid catchments in Karnataka State, INDIA	Final report was prepared & Submitted to ISRO RESPOND
Dr. G.S. Dwarakish (Research Co-ordinator)	Proposal for Creation of Ocean and Atmospheric Science and Technology Cell (OASTC), Centre for Ocean Technology (COT)	Final report was prepared & Submitted.
Dr. G.S. Dwarakish (P.I.) Dr. S.G. Mayya (Co- P.I.)	Nearshore processes information system for Mangalore coast – A RS & GIS Approach"	Final report was prepared & Submitted.
Dr. G.S. Dwarakish (P.I.)	Integrated Coastal Zone Management	First Draft of Final

Prof. G. Srinikethan (Co-P.I.)	Plan for Karnataka Coast	report was Prepared and Submitted
Dr. Subba Rao Dr. Kiran G Shirlal Dr. G.S. Dwarakish (Co P.I.) Mr. Subramanya K	Management of Tidal Inlets along West Coast of India	Final report was Prepared and Submitted
Dr. G. S Dwarakish (P. I) Mr. K.B. Kiran (Co P.I.)	RS and GIS tools for sustainable management of Sacred Groves in Kodagu district	Annual progress report was prepared
Dr. G. S Dwarakish (P. I)	Analysis of satellite derived wind and wave parameters for coastal waters off Karnataka	Annual progress report was prepared

**Continuing Education Programmes / Short Term Courses/ Workshops / Seminars Etc.
Organized (Last 5 years)**

Date	Title of Programme	Funding Agency
11.04.2014	Special Lecture by Dr. M. Baba	Institute Fund, NITK, Surathkal
21.09.2013	Special Lecture by Prof. Venkatlakshmi, University of South Carolina (USC)	Institute Fund, NITK, Surathkal
05.09.2013	Special Lecture by T. N. Singh	Institute Fund, NITK, Surathkal
17.12.2012	Special Lecture by Prof. J. Dattatri	Institute Fund, NITK, Surathkal
13.06.2011 -17.06.2011	Effective Teaching Methodologies [ETM 10]	TEQIP, NITK, Surathkal, Govt. of India, New Delhi. [Conducted at NIT Goa, GEC Campus]
11.05.2010 – 14.05.2010	Effective Teaching Methodologies - Statics [ETMS'10] – Summer School	MHRD, Govt. of India, New Delhi.
15-02-2010 – 19-02-2010	NURTURANCE Programme for NTS Awardees	NCERT, Govt. of India, New Delhi.
29-12-2009 – 02-20-2010	INSPIRE - Winter Science Camp	DST, Govt. of India, New Delhi
20.07.2009 – 31.07.2009	Geoinformatics for Integrated River Basin Development [GIRBD] – Summer School	MHRD, Govt. of India, New Delhi.
19.01.2009 – 30.01.2009	Geoinformatics for Integrated Coastal Zone Management Plan [GICZMP] – Winter School	MHRD, Govt. of India, New Delhi.
26 04. 2007	One day workshop on Integrated Coastal Zone Management Plan [ICZMP-2007]	MoEF, Govt. of India, New Delhi.
24 03.2007	One day awareness programme on Global Positioning System [GPS]	MHRD, TEQIP, NITK, Surathkal.
10.03.2007	One Day Awareness Program on Remote Sensing & Geographic Information System for College Students	MHRD, TEQIP, NITK, Surathkal
02.02. 2005	Workshop on Wetland Monitoring and Management” sponsored by TEQIP, conducted in our department. (Coordinators: Dr. Arkal Vittal Hegde and	MHRD, TEQIP, NITK, Surathkal

Dr. G. S. Dwarakish).

Professional Training Received / Summer / Winter Schools attended [06]

Year	Nature of Training	Duration	Organization where training was provided
1995	P. C. Professional Course	One week	KREC, Surathkal
1995	Digital Image Analysis in the Field of Remote Sensing Technology	Two weeks	RRSSC Bangalore
1996	Remote Sensing for Land and Water Resources Management	Two weeks	IIT, Kharagpur
1997	Quality Assurance in Engineering Education	One week	KREC, Surathkal
1998	Remote Sensing Applications in Marine Sciences	Two days	Anna University Chennai
1998	Site Investigation Techniques for Civil Engineering Constructions and Development of Engineering Geology and Geotechnology in India	Two weeks	KREC, Surathkal
1999	Recent advances in Chemical, Electro-chemical and Nuclear Energy Systems	Two weeks	P.E.S. College of Engineering Mandya
2000	Engineering Geology and Geotechnology role in Country Planning and Development	Two weeks	KREC, Surathkal
2000	Introduction to ArcView and Spatial Analyst	One week	ESRI India, New Delhi
2002	Remote Sensing and Geographic Information System for Resources Management	Two weeks	KREC, Surathkal
2003	Remote Sensing and Geographic Information System for Resources Management	Two weeks	KREC, Surathkal
2003	Coastal Erosion Areas (CEA)- Protection and Management	Two weeks	NITK, Surathkal
2003	Advances and Latest Trends in Engineering Geology and Geotechnology	Two weeks	NITK, Surathkal
2004	Integrated Water Resources Management using Numerical Methods, Remote Sensing and GIS	One week	IIT, Bombay
2004	Planning, Development and Management of Modern Urban Core Infrastructure Solution for India	Two weeks	NITK, Surathkal
2004	Satellite Oceanography	Two weeks	DOD, ICMAM-PD, Chennai

Year	Nature of Training	Duration	Organization where training was provided
2004	Computer Aided 3-D Modelling and Animation	One week	MIT, Manipal
2005	Introduction to Statistics using SPSS-19.01.05	One day	NITK Surathkal, by SPSS South Asia
2005	GIS training programme -22.06.2005	One week	ESRI India, Bangalore
2008	RISAT –UP Radar Remote Sensing and Applications- 01-12 December 2008.	Two weeks	SAC, ISRO, DOS, Ahmedabad, India
2009	Short term training program on “Isotope Tracer Techniques for Water Resources Development and Management” 15-20 June 2009.	One week	CWRDM, Calicut, Kerala, India.
2009	Indo-US Engineering Faculty Leadership Institute- June29- July 3,2009.	One week	Infosys Mysore Center
2010	Summer School on “Field methods and eco-hydrological models for integrated water management in rural areas” sponsored by DAAD, Germany-16-29 September 2010.	Two weeks	Department of Hydrology and Water Resources Management, Ecology Center, Kiel, Germany.

Summary of R & D Projects

RESPOND project

The coastal zone of Mangalore is acquiring an ever increasing importance due to its rich ocean resources and favorable condition for development of port based major industries. All weather New Mangalore Port Trust (NMPT) is the administrative unit of the port which caters to the needs of large, medium and small scale industries.

The present study is carried out with a view (i) to understand sediment dynamics and interaction of coastal structures with beach morphology, (ii) to study the coastal processes in the vicinity of the New Mangalore Port (NMP) breakwaters, (iii) to develop an algorithm for the estimation of Suspended Sediment Concentration (SSC) from in-situ and Indian Remote Sensing Satellite (IRS)-P4 Ocean Colour Monitor (OCM) data and (iv) to study the change detection of shoreline. These objectives are addressed using the various conventional and satellite data. A 40km stretch of the Mangalore Coast, starting from Talapady in the South and Mulky in the North, along the West Coast of India is the study area.

Survey of India toposheet was used to prepare the basemap. The predominant direction of sediment transport was determined by drawing sediment trend matrices based on the statistical parameters of beach face sediments. Sea sled survey data were used to study the effects of seawalls on beach profile morphology. The performance of breakwaters at NMP was assessed by leadline soundings data. Sea bed sediments data were analysed to detect the source of siltation along the outer approach channels and lagoon of NMP. In-situ measurements in synchronized with IRS-P4 satellite overpass were used to validate the SSC algorithm developed from OCM data. Shoreline changes were detected using IRS-1A/1B satellite data.

Based on the analysis of conventional and satellite data, it is concluded that the littoral drift in the study area is negligibly small which is supported by the results of other analyses. Net sediment transport along the Mangalore coast is very small. Siltation in the approach channel and lagoon of NMP is due to the offshore-onshore movement of sediments.

The analysis to study the effect of coastal structures with coastal processes, shows that, seawalls constructed along the Mangalore coast are properly designed and located away from the active zone of the beach and hence they are not affecting the beach profiles and beach recovery processes either in front of it or on the neighbouring beaches. There is no significant changes observed in the bathymetry and shoreline in the vicinity of NMP due to breakwaters construction.

Analysis of satellite data indicates that there is no large scale variation in the shoreline configuration, except at the unprotected river mouth. The accuracy of algorithm developed using IRS-P4 OCM data for the estimation of SSC is satisfactory. Hence, it is concluded that satellite data can be used for studying the coastal processes.

MHRD project

The proposed work mainly concentrates on nearshore coastal processes of Mangalore coast. It involves identification of eroding/accreting critical areas along the Mangalore coast. The performance of coastal structure in the study area will be assessed in the proposed study. The Suspended Sediment Concentration (SSC) model relating remotely sensed data and in-situ data will be developed by considering the state-of-the-art technology. It is also proposed to develop a model, which gives the vertical distribution of SSC along the Mangalore coast. The sediment dynamics in the vicinity of all weather New Mangalore Port (NMP) is proposed to find out the main reason for siltation problem in the approach channel and lagoon of NMP. The movements and distribution of dredged material from the dumping site will be tackled through Sediment Trend Analysis (STA). The study will be carried out using both conventional and remotely sensed data and other attribute informations of the study area. The nearshore processes information system for the study area will be developed under Geographical Information System (GIS) environment. This gives the online informations about the long-term and short-term shoreline configuration, effect of coastal structure on the coastal processes, surface as well as vertical distribution of SSC and sediment dynamics in the vicinity of NMP approach channel and lagoon.

MOEF project

The main objectives of this project are:

- 1) To identify the critical erosion areas of the Karnataka coast using RS & GIS.
- 2) To prepare area specific management plan for mitigation of erosion along Karnataka Coast.
- 3) To develop a Critical Erosion Areas Information System (CEAIS) in GIS environment.

The following are the sub-components of the project work:

- 1) Shoreline Change detection using Topo sheets and multi-date Remotely Sensed data.
- 2) Analysis of the data to identify and classify the erosion prone areas as critical, moderate, and zero-erosion areas.
- 3) Land use/Land cover change detection and analysis.
- 4) Arriving at Area specific management of erosion areas based on the land use/ land cover analysis.
- 5) Integrating all the data generated into GIS environment.
- 6) Development of a Critical Erosion Areas Information System (CEAIS).
- 7) Final Document / Report generation.

ICMAM-PD, DOD project

This project mainly concentrates on dynamics of river mouth along Karnataka Coast. As an experimental basis only Netravati-Gurpur river mouth is selected in the beginning. All the available data such as wind velocity & direction, wave direction, currents, tides, sediment concentration and its distribution, bathymetric details, beach profile, quantity of sediment brought in by the rivers, high resolution remotely sensed data at frequent intervals will be used to understand the river mouth dynamics and shoreline configuration at Netravati-Gurpur river mouth. Based on the experience gained while conducting the present study for Netravati-Gurpur river mouth, same study will be extended to remaining river mouths of Karnataka Coast. For this project major equipments will be given by ICMAM-PD, DOD, Pallikarani, Chennai. This project is challenging, since it involves lot of field data collection both in the estuary as well as in the vicinity of Netravati-Gurpur river on the ocean side.

DST Project

The DST project titled "RS & GIS Application for Sustainable Management of Sacred Groves" in Kodagu District" is basically for development of database for the Sacred Groves in Kodagu district. Database includes location details, areal extent of the sacred groves, monitoring agency, temple name and other details, threats to the sacred groves and some development plan for the existing sacred groves. The actual areal extent of the sacred groves are extracted through the analysis of high resolution IRS satellites data, using ERDAS Imagine 9.3 software and analysed in Arc View- Master lab kit GIS environment.

RESPOND Project

The second RESPOND project, sponsored from Indian Space Research Organisation (ISRO) under RESPOND programme titled "Analysis of Satellite Derived Wind and Wave Parameters of Karnataka Coast". For the execution of this project ENVISAT data was purchased from ESA. The programme was written in FORTRAN to extract the wave and wind information. The different activities completed under this project includes a) Understanding the SAR concepts b) retrieval and validation of Wave spectra and Wind speed from SAR c) Algorithm to deriving level 2 from Level 1 data of wavemode data d) preparation of wave spectra and wind speed map for the new datasets purchased from ESA e) Completion of algorithm for wave mode data.

Consultancy works undertaken/ industry interaction

Only the departmental testing and consultancy works related to strength of materials lab (tension test, bending & re-bending test) and fluid mechanics lab (Calibration of pressure gauges and watermeter) have been undertaken.

I am regularly interacting with New Mangalore Port Trust (NMPT), Panambur, India Meteorological Department (IMD) observatory, Panambur; Minor Irrigation Department, Public Works Department, Port & Harbour Sub-division, Mangalore; KERS, Mangalore Sub-division; RRSSC, KRSRAC, Bangalore; MPT, Goa; IIT Madras, IIT Mumbai, IIT Kharagpur, IIT Delhi, NIT-Calicut, Trichi, Warangal, Nagpur, Surath, Raipur, Rourkela, Pandichery, Goa, NIO Goa; NIOT Chennai; IRS, Anna University, Chennai; GEC, Farmagudi, Ponda, Goa, Anna University, Chennai, Bangalore University, Bangalore, Mangalore University, Mangalore, VTU, Belgaum, College of Engineering, Trivendrum, etc.

Experience in Administrative Positions, Curriculum and Lab Development, Student Welfare, Professional and Outreach Activities

Administrative Positions

Head of the Department

Applied Mechanics Department, NITK, Surathkal

Faculty In-Charge	IIP Cell, NITK Surathkal
Deputy Co-ordinator	NIT Goa
Chief Warden [In-charge]	NIT Goa, GEC Campus, Ponda, Goa
Hostel block Warden	NITK Hostels for two terms
Associate Dean (Students' Welfare)	NITK Surathkal
Member	SC/ST Cell, NITK Surathkal
Member	Health Care Centre, NITK Surathkal
Board of Directors	Consumer's Society, NITK Surathkal
Secretary	Consumer's Society, NITK Surathkal
Board of Directors	Credit Society, NITK Surathkal
Member	Provident Fund Committee, NITK Surathkal
Member	Fire Committee, NITK Surathkal
Member	AIEEE Counseling & Admission, NITK Surathkal [2004-05]
Dy. In-charge	Help Centre & Admission Centre, AIEEE' 10 & AIEEE'11, NIT Goa
Member	AIEEE Counseling & Admission NIT Goa [2010-11]
Member	Institute Staff Selection Committee, NITK & NIT Goa
Member	Institute Magazine Committee, Vitruvian (Kannada Section)
Faculty In-charge	MUNDA ABHIVRUDI SAMANYA SAMITHI [MASS], to develop the Munda Village, under Services to the Community under ENGINEER'09.

Academics

Member	RPAC
Member	DRPC, DPGC and DUGC
Secretary	DPGC, DRPC
Faculty in-charge	Department time table for three years
Faculty Advisor	II year CIVIL Engineering Branch II year M.Tech [RS & GIS]
Faculty In-charge	RS & GIS and Departmental Computer Labs
Member	DAAB committee
Secretary	Civil Engineering Association
Faculty Advisor	First year and Second year – NIT Goa

Others

Co-coordinator	INSPIRE- Winter Science Camp
Co-coordinator	NURTURANCE Programme for NTS Awardees
Co-coordinator	RS & GIS programme
Co-coordinator	GPS programme
Co-coordinator	GICZMP'09, GIRBD'09 & ETMS'10 and ETM'11 at NIT Goa
Member	Annual Convocation
Member	Golden Jubilee Celebrations
Co-convener	Transportation committee, INCHOE'2007
Convener	Transportation committee, SWaRM'2010
Member	Stage Committee ISTE Annual Convention, Indian Engineering Congress
Member	ENGINEER [Technical Fest], INCIDENT [Cultural Fest], CRRESCENDO [Inter year cultural competition]

Member	World Coastal Clean-up Day
Coordinator	World Water Day, World Wetland Day and World GIS Day
Returning Officer	Student's Union Elections
Faculty Advisor	Music Club, Kannada Vedike, Artist forum, Ganesha Festival, Holi, Deepavali, New Year's Day celebration
Faculty Advisor	Civil Engineering Model Competitions
Secretary	Staff Recreation Club
Performed in several Kannada Dramas namely Deepadinda Deepa Hacha, Panchabootha, Panchabootha'08, Devarapalayana	

Awards / Recognitions

2016	Received Venus International Faculty Award for the year 2016 , instituted by Venus Education Foundation, Chennai, in recognition of outstanding contribution in the field of Coastal Engineering Sciences.
2015	Received Prof. Satish Dhawan Young Engineers State Award for the year 2013 , instituted by the Government of Karnataka in recognition of outstanding contribution in the field of Engineering Sciences. Guest Editor - Elsevier Aquatic Procedia-ICWRCOE'15 Received Young Scientist Award and Best Paper Award for the paper titled "Study of Land Use/Land Cover Dynamics through Classification Algorithms for Harangi Catchment Area, Karnataka State, INDIA" presented at the International Conference on Water Resources, Coastal and Ocean Engineering (ICWRCOE '15), 12-14 March 2015 organised by Department of Applied Mechanics and Hydraulics, NITK Surathkal.
2014	Board of Examiners (BoE), PG, UVCE, Bengalooru, Karnataka.
2013	Guest Editor-In-Chief for Special Issue on RS & GIS Applications, International Journal of Earth Sciences and Engineering Awarded best young scientist for "Land use/ Land cover changes along D. K. Coast, West coast of India using Remote sensing and GIS" which was presented during the <i>8th International congress on climate change, Territorial classification and socio-economic crisis</i> , organised by Bharathidasan University, Tamilnadu and National Polytechnic Institute, Mexico, Bharathidasan University, Tamilnadu, 23 rd -27 th April 2013. Serving as a Secretary of Indian Society of Geomatics [ISG] Executive Member, Kodagu- Dakshina Kannada- Udupi Engineers' Association Awarded Indian Government Fellowship to pursue Ph.D. (Q.I.P) Awarded Ph.D. from Institute of Remote Sensing, Anna University, Chennai
2010	Awarded best paper for "Sediment Characteristics of Dakshina Kannada Coast, West Coast of India" which was presented during the International Conference on Earth Sciences and Engineering, held at Hyderabad, on 21 st August 2010. Selected as Board of Examiners (BoE), PG, UVCE, Bengalooru, Karnataka. Selected as Board of Examiners (BoE), VTU, Belgaum, Karnataka Selected as Board of Examiners (BoE), Anna University, Chennai, Tami Nadu. Selected as Board of Examiners (BoE), Coimbatore Institute of Technology, Coimbatore, Tamil Nadu. Selected as one of the Committee Members of Board of Studies (BoS), for NIE, Mysore and NMAMIT, NITTE University, Nitte, and College of Engineering, Thiruvananthapuram One of the Editors of International Journal of Earth Sciences and Engineering Reviewer of International Journal of Earth Sciences and Engineering, India Reviewer of International Journal of Coastal Research, USA

Reviewer of International Journal of Imaging
Reviewer of Climate Change



Received **Prof. Satish Dhawan Young Engineers State Award for the year 2013**, instituted by the Government of Karnataka in recognition of outstanding contribution in the field of Engineering Sciences.



Received **Venus International Faculty Award for the year 2016**, instituted by Venus Education Foundation, Chennai, in recognition of outstanding contribution in the field of Coastal Engineering Sciences.

Extra Curricular Activities

Reviewed the text book titled “An Introduction to Geographic Information Technology” [ISBN: ISBN 81-88237-66-3] written by Sujith Choudhury, Deepankar Chakraborti and Suchandra Choudhury, published by I.K. International Publishing House Pvt.Ltd.

Identified as one of the resource persons in the area of remote sensing, GIS and image processing and delivered the invitation talks in several institutes and schools. In addition to this, I had also gave lectures in high schools both in Kannada and English, about remote sensing, GIS and GPS

Execution of all the works related to counseling, admission, academic, administration, hostel affairs, students’ affairs at NIT Goa, under the able guidance and support from the Director, NITK and other Administrative officials of NITK Surathkal and Goa College of Engineering, Ponda, Goa, in addition to taking Engineering Mechanics subject.

Serving as a Secretary of Indian Society of Geoinformatics [ISG]

Chairman of one of the technical sessions of ICOE’09, held at IIT Madras, India, 1-5th February 2009.

Co-Chairman of one of the technical sessions of SwaRM’10, held at NITK, Surathkal, India, 7th -9th January 2010.

Extra curricular activities- Drama, Sports, Singing, Folk Songs

Executive Member, Kodagu- Dakshina Kannada- Udupi Engineers’ Association

One of the panel of judges for Dakshina Kannada – Udupi Vijgana Mela held at Vidyadayini School

Served as one of the judges for various events such as Kannada light music, folk dance/songs, Kannada drama etc., held in D.K. District

Chairman of one of the technical sessions of INCHOE’14, held at NIO, Goa, India, 5th – 7th February 2014.

List of Mini Projects/ Technical Seminars Guided (M.Tech/Ph.D.)

Indian Satellite Family

Integrated Coastal Zone Management (Ph.D. Scholar).
Satellite Launch Vehicles past, present & future
Sediment Trend Matrix
Granulometric analysis of Netravati- Gurgur rivers
Landuse/Land cover map preparation by DIP
Nearshore Bathymetric Study by using RS data
Coastal pollution
Satellite Oceanography
Space Shuttle
International Space Station
Global Positioning System [GPS]
Variable Source Area Watershed Model
River Basin Soil Erosion Model [MUSLE]
Interlinking of Rivers
Numerical modelling to estimate the groundwater contamination
Crime analysis using GIS
Littoral drift along D.K. Coast
Urban Hydrology
LU/LC change detection using high resolution RS data
Dredging Equipments for Deep and Shallow Water Marine Applications

Technical Talks Delivered

1	Modes of Sediment Transport	Training Programme for KERS Engineers, Mysore.
2	Fundamentals of Fluid Mechanics, Selection of Turbines & Pumps	Transfer of Technology to Rural Areas, KREC, Surathkal
3	Performance of Seawalls along D.K.Coast	Departmental Technical Talk, KREC, Surathkal.
4	Decision Support System for civil engineering problems	During Workshop, Institute of Remote Sensing, Anna University, Chennai
5	Applications of RS & GIS for Coastal Engineering	AICTE / ISTE – STTP, KREC, Surathkal.
6	Sediment Dynamics along Mangalore Coast through RS & GIS.	Engineer's Day, Institute of Engineers, Mangalore Chapter, Mangalore.
7	Fundamentals of Digital Image Processing	AICTE / ISTE – STTP, KREC, Surathkal
8	Digital Image Processing Methods & Applications	AICTE / ISTE – STTP, KREC, Surathkal
9	Study of Suspended Sediment Concentration (SSC) and its distribution along Mangalore Coast using RS & GIS.	AICTE / ISTE – STTP, KREC, Surathkal
10	Civil Engineering Applications of RS & GIS.	Engineer's Day, MIT, Manipal.
11	Physics of Remote Sensing	NNRMS – STTP, Kongu Engineering College, Erode, TN.
12	Platforms and Sensors for Satellite Remote Sensing.	NNRMS – STTP, Kongu Engineering College, Erode, TN.
13	Visual Interpretation Techniques of RS data.	NNRMS – STTP, Kongu Engineering College, Erode, TN.
14	Digital Image Processing of RS data.	NNRMS – STTP, Kongu Engineering College, Erode, TN.
15	Fundamentals of Microwave Remote Sensing and its applications.	NNRMS – STTP, Kongu Engineering College, Erode, TN.
16	Applications of Remote Sensing.	RSIP- 03, Kongu Engineering College, Erode, TN.
17	RS and GIS & Visualisation Capabilities for Interlinking of Rivers.	National Seminar on Interlinking of Rivers, UVCE, Bangalore.
18	Integrated Coastal Zone Management Plan (ICZMP) through RS & GIS – An Indian Scenario	National Seminar on National Resources Management for Sustainable Development, UVCE, Bangalore.
19	Bird's Eye view of RS and GIS	STTP – AICTE – ISTE, IIT, Mumbai.
20	Fundamentals of Remote Sensing and GIS	STTP – AICTE – ISTE, College of Technology G. B. Pant University and Technology, Pantnagar, Uttaranchal state STTP–AICTE–ISTE, College of Technology; G. B. Pant University and Technology, Pantnagar, Uttaranchal state
21	Visual and digital Image Processing	

Countries Visited

Country visited	Fr	Period of visit	To	Purpose of visit
McGill University, Montreal, Canada	26.10.2015	03.11.2015		Research interaction with Prof. Shiv O. Prasher and academic and research collaboration and initiation of MoU and GIAN program.
Kuala Lumpur, Malaysia	14.04.2014	17.04.2014		To attend and present paper in the International Conference 2014 IEEE Region 10.
University of South Carolina, USA	21.02.1012	04.03.2012		For research interaction with the Professors of Dept. Of Geological Sciences & Marine Science Program, USC, USA
Kiel, Germany	13.09.2010	02.10.2010		To attend the Summer School on "Field methods and eco-hydrological models for integrated water management in rural areas" held at Kiel University
Kagoshima, Japan	20.05.2008	03.07.2008		For research interaction with the Professors of Ocean Civil Engineering, from Kagoshima University, Japan.
Florence, Italy	15.09.2007	21.09.2007		To attend and present paper in the International Conference SPIE'07

Computer Skills

Image processing software	ERDAS Imagine 9.0 – 9.2, ENVI, EASI / PACE
GIS Software Professional, GRAM	ARC/INFO, ARCVIEW, ARC GIS, Geomedia
Marine Modeling software	MIKE 21, OCM DAS
Statistical Analysis Tool	SPSS
Operating System	Windows'03, '07, 08, UNIX
Others	MS Office 2003, 2007, 2010

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