

# **CURRICULUM VITAE**

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## **Academic**

B.E. ( <i>Civil Engg</i> )	KREC Surathkal	1985
M.Tech. ( <i>Hydraulics &amp; Water Resources Engg.</i> )	KREC Surathkal	1987
Ph.D. ( <i>Water Resources Engg.</i> )	IIT Bombay	1993
Postdoctoral Research ( <i>Civil Engg</i> )	IIT Bombay	1993-95
Postdoctoral Research ( <i>Water Resources Engg</i> )	Technical University, Halifax, CANADA	1995-96

## **Professional experience**

Teaching at NITK Surathkal since 1996

## **Areas of Research Interest**

Water Resources Engineering, Groundwater Engineering, Numerical Modelling, Seawater Intrusion, Climate Change, Conjunctive Use.

## **Research Publications - Journals**

1. Vinod, D. and Amai Mahesha (2025). Characterizing extreme rainfall using Max-Stable Processes under changing climate in India. *J. Hydrology*, 655 (2025), 132922, 1-18.  
<https://doi.org/10.1016/j.jhydrol.2025.132922>
2. Vinod, D. and Amai Mahesha (2025). Modeling non-stationary 1-hr rainfall for Indian river basins under changing climate. *J. Hydrology*, 652, 132669, 1-17.  
<https://doi.org/10.1016/j.jhydrol.2025.132669>

3. Vinod, D. and Amai Mahesha (2024). Spatial-Dependence of Extreme Rainfall and Development of Intensity-Duration-Frequency Curves using the Max-Stable Process Models. *J. Hydrologic Engg., ASCE*, 30(1), 04024053  
<https://doi.org/10.1061/JHYEFF.HEENG-6326>
4. Archana, T.R., Vinod, D. and Amai Mahesha (2024). Decadal Trends and Climatic Influences on Flash Droughts and Flash Floods in Indian Cities. *Urban Climate*, 58(2024), 102143.  
<https://doi.org/10.1016/j.uclim.2024.102143>
5. Vinod, D. and Amai Mahesha (2024). Modeling nonstationary intensity-duration-frequency curves for urban areas of India under changing climate. *Urban Climate*, 56, 102065.  
<https://doi.org/10.1016/j.uclim.2024.102065>
6. Gautham Jagrathi, O. Sungmin, Vinod D. and Amai Mahesha (2024). Evaluation of GPM IMERG satellite precipitation for rainfall-runoff modelling in Great Britain. *Hydrological Sciences Journal*  
<https://doi.org/10.1080/02626667.2024.2394172>
7. Rajendra Raj, Degavath Vinod and Amai Mahesha (2024). Downscaling algorithms for CMIP6 GCM daily rainfall over India. *J. Earth Syst. Sci.*, 133 104.  
<https://doi.org/10.1007/s12040-024-02323-1>
8. Besty Benny, D. Vinod and A. Mahesha (2024). Fortnightly Standardized Precipitation Index Trend Analysis for Drought Characterization in India. *Theoretical and Applied Climatology*.  
<https://doi.org/10.1007/s00704-024-04905-x>
9. Vinod, D. and Amai Mahesha (2024). Large-Scale Atmospheric Teleconnections and Spatiotemporal Variability of Extreme Rainfall Indices Across India. *J. Hydrology.*, 628, 130584, 1-17. <https://doi.org/10.1016/j.jhydrol.2023.130584>
10. Surajit Deb Barma and Amai Mahesha (2023). Discussion of “Innovative approaches to the trend assessment of stream flows in the Eastern Black Sea basin, Turkey”, *Hydrol. Sci. J.*, 68(5), 731-732. <https://doi.org/10.1080/02626667.2023.2185524>
11. Chowdari, K.K., Surajit Deb Barma, Nagaraj Bhat, Girisha, R., Gouda, K.C. and Amai Mahesha (2023). Trends of seasonal and annual rainfall in semi-arid districts of Karnataka, India: Application of innovative trend analysis approach. *Theoretical and Applied Climatology*. 152, 241-264.  
<https://doi.org/10.1007/s00704-023-04400-9>
12. Chythanya Krishnan and Amai Mahesha, (2023). Assessment of Bi-Decadal Groundwater Fluctuations in a Coastal Region Using Innovative Trends and Singular Spectrum Analysis. *Journal of the Geological Society of India*, 99:111-119.  
<https://doi.org/10.1007/s12594-023-2273-5>
13. Dineshkumar, M., B. Sivakumar and Amai Mahesha (2023). Future global concurrent droughts and their effects on maize yield. *Science of the Total Environment*, 855 (2023), 158860.  
<https://dx.doi.org/10.1016/j.scitotenv.2022.158860>

14. Thieu, N.V., Deb Barma, S., Lam, T.V., Kisi, O. and Amai Mahesha (2023). Groundwater level modelling using augmented artificial ecosystem optimization. *J. Hydrology*, 617, Part C, 129034. <https://doi.org/10.1016/j.jhydrol.2022.129034>
15. Chandre Gowda, C., Amai Mahesha and S.G. Mayya (2022). Development of operation policy for dry season reservoirs in tropical partially gauged river basins. *International Journal of River Basin Management*. <https://doi.org/10.1080/15715124.2022.2118280>
16. Sharannya T. M., Venkatesh Kolluru, Mahesha Amai and Tri Dev Acharya (2022). Enhanced streamflow simulations using nudging-based optimization coupled with data-driven and hydrological models. *J. Hydrology: Regional Studies*, 43(10), 101190. <https://doi.org/10.1016/j.ejrh.2022.101190>
17. Chythanya Krishnan and Amai Mahesha (2022). “Regional trends and spatiotemporal analysis of rainfall and groundwater in the west coast basins of India”, *J. Hydrologic Engg., ASCE* 27(8), 05022008-1-20. [https://doi.org/10.1061/\(ASCE\)HE.1943-5584.0002177](https://doi.org/10.1061/(ASCE)HE.1943-5584.0002177)
18. Surajit Deb Barma, Sameer Balaji U., Prathamesh B., Nagaraj Bhat and Amai Mahesha (2022). Evaluation of ERA5 and IMERG precipitation data for risk assessment of water cycle variables of a large river basin in South Asia using Satellite data and Archimedean copulas. *Water Conservation and Management* 6(1): 61-69. ISSN: 2523-5664 (Print) <https://www.watconman.org/wcm-01-2022-61-69/>
19. Sharannya, T.M., K. Venkatesh, Amogh Mudbhatkal, M. Dineshkumar and Amai Mahesha (2021). Effects of land use and climate change on water scarcity in rivers of the Western Ghats of India. *Environ. Monit. Assess.*, 193, 820. <https://doi.org/10.1007/s10661-021-09598-7>
20. Dinesh Kumar M. and Amai Mahesha (2021). “Multivariate analysis of concurrent droughts and their effects on Kharif crops – A Copula-based approach”. *International J. Climatology*, 42(5), 2773-2794. <http://onlinelibrary.wiley.com/doi/10.1002/joc.7390>.
21. Dineshkumar, M. and Amai Mahesha (2021). “Spatio-metric analysis of compound agrometeorological drought and hot events in India using standardized index”. *J. Hydrologic Engg., ASCE*, 26(7), 04021022-1-15. [https://doi.org/10.1061/\(ASCE\)HE.1943-5584.0002101](https://doi.org/10.1061/(ASCE)HE.1943-5584.0002101)
22. Dineshkumar, M. and Amai Mahesha (2021). “Copula-based frequency and coincidence risk analysis of floods in tropical, seasonal rivers”. *J. Hydrologic Engg., ASCE*, 26 (5), 05021007-1-17. [https://doi.org/10.1061/\(ASCE\)HE.1943-5584.0002061](https://doi.org/10.1061/(ASCE)HE.1943-5584.0002061).
23. Anjali Vijay, Sruthi D. Sivan, Amogh Mudbhatkal and Amai Mahesha (2021). “Long-term climate variability and drought characteristics in the tropical region of India”. *J. Hydrologic Engg., ASCE*, 26(4), 05021003-1-13. [https://doi.org/10.1061/\(ASCE\)HE.1943-5584.0002070](https://doi.org/10.1061/(ASCE)HE.1943-5584.0002070)
24. Arya Sajeev, Deb Barma S., Mahesha Amai and Jenq-Tzong Shiau (2021). “Bivariate drought characterization of two contrasting climatic regions in India using copula”. *J. Irrigation & Drainage Engineering ASCE*, 147(3), 05020005-1-18. [https://doi.org/10.1061/\(ASCE\)IR.1943-4774.0001536](https://doi.org/10.1061/(ASCE)IR.1943-4774.0001536)
25. Sharannya, T. M., Al-Ansari, N., Barma, S. D., and Mahesha, A. (2020). “Evaluation of satellite precipitation products in simulating streamflow in a humid tropical catchment of India using a semi-distributed hydrological model.” *Water*, 12(9),2400:1-25. <https://doi.org/10.3390/w12092400>
26. Sameer Balaji Uttarwar, S. Deb Barma, and Amai Mahesha. (2020). “Bivariate modeling of the hydroclimatic variables in the humid tropical coastal region using

- Archimedean copulas.” *J. Hydrologic Engg., ASCE*, 25(9), 05020026-1 to 18. [https://ascelibrary.org/doi/abs/10.1061/\(ASCE\)HE.1943-5584.0001981](https://ascelibrary.org/doi/abs/10.1061/(ASCE)HE.1943-5584.0001981)
27. Sruthi S Kumar, S Deb Barma and A Mahesha (2020). Simulation of coastal aquifer using mSim toolbox and COMSOL Multiphysics. *J. Earth Syst. Sci.*, 129:66 <https://doi.org/10.1007/s12040-019-1329-9>
28. Priyanka BN, MS Mohan Kumar and Mahesha Amai (2018). Estimating anisotropic heterogeneous hydraulic conductivity and dispersivity in a layered coastal aquifer of Dakshina Kannada District, Karnataka. *J. Hydrology*, 565,302-317. <https://www.sciencedirect.com/science/article/pii/S0022169418306280?via%3Dihub>
29. Amogh M. and A.Mahesha (2018). Regional climate trends and topographic influence over the western ghat catchments of India. *International Journal of Climatology*, 38(5), 2265-2279. <http://onlinelibrary.wiley.com/doi/10.1002/joc.5333/full>
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- Karnataka. *International J. Computational Engg. Research*, 4(5), 19-24.  
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### **Conferences**

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80. Subrahmanya, K., A.Mahesha and A.Mohan (2017). Groundwater modelling in and around Gurupura wetlands, Dakshina Kannada district, Karnataka. Proc. National Seminar on Biodiversity Conservation and Farming Systems for Wetland Ecology, 22-23 February, 2017, Regional Agricultural Research Station, Kerala Agricultural University, Kumarakon, Kerala, p.179-180.
81. Amogh, M., R. Raikar, B. Venkatesh and A.Mahesha (2017). Impact of climate change on hydrology of west flowing river of western ghats, India. Proc. Int. Conf. Hydraulic and Environmental Systems, held at Belgaum during 23-25 March, 2017, KLEMSS College of Engg & Technology, Belgaum, KLE Technological University and NIH Belgaum.
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83. Priyanka B.N., M.S. Mohankumar and A.Mahesha (2016). Large Scale Modeling of Seawater Intrusion: A Case Study. International Conference on Lowland Technology held at Mangaluru during September 15-17, 2016, International Association of Lowland Technology, Japan and NITK Surathkal
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<https://doi.org/10.1016/j.aqpro.2015.02.090>
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88. Archana K. and A.Mahesha (2015). Studies on climate change impact on west flowing rivers of Karnataka, India. Int. Conf. Hydraulics, Water Resources and River Engineering, (HYDRO 2015), IIT Roorkee, 99.
89. Lathashri U.A. and A.Mahesha, (2014). Solute transport modelling in tropical, coastal aquifer – A semi-conceptual approach. Proc.4<sup>th</sup> Int. Conf. Hydrology and Watershed Management. Eds: K. Ramamohan Reddy and B. Venkateswara Rao, Centre for Water Resources, Institute of Science and Technology, J.N.T.U., Hyderabad, India
90. Lathashri.U.A and A. Mahesha, (2014). Solute transport modelling of saltwater intrusion in coastal aquifers. Proc. International conference on Emerging trends in Engineering, Department of Civil Engineering, NMAM Institute of Technology, NITTE, Udupi District, Karnataka. ISBN: 978-93-83083-80-0.



91. Honnanagoudar, SS., DV Reddy and A.Mahesha, (2013). Terrain analysis of pumping test and vertical electrical resistivity test of the southern west coast of Karnataka, India, Int. Conf., 23-24 May, 2013, Chennai.
92. Vyshali and A. Mahesha, (2013). An Integrated Approach for The Assessment of Saltwater Intrusion into Coastal Aquifers- A Case Study from Karnataka, India, presented at Int. Conf. Integrated Water, Wastewater, and Isotope Hydrology held during 25-27 July 2013 at Bangalore University, Bangalore. 125-127.
93. Honnanagoudar, SS., DV Reddy and A.Mahesha, (2013). Aquifer characterization and water quality investigations of tropical aquifer of west coast of India. Third Int. Engg. Symposium (IES2013), 4-6 March 2013, Japan.
94. Honnanagoudar, S.S., DV Reddy and A.Mahesha, (2012). Hydrogeological studies along the coastal tracts of Dakshina Kannada district, Karnataka. Nat. Conf. Advances in Earth Sciences, Structural, Geotechnical and Earthquake Engg. (AESG2E-2012), Hyderabad, 4-5 Oct. 2012, 1-9.
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96. Mythri, D.J. and A.Mahesha, (2011). Climate change impact on river hydrological processes- A case study. Proc. Int. Geography Congress on Sustainable Natural Resources Management under Changing Climatic Scenarios, Centre for Water Resources Development and Management, Kozhikode, Kerala, 129-132.
97. Vyshali and A.Mahesha, (2010). Tropical, coastal aquifer management – A case study. Proc. Int. Conf. Hydro-Science & Engg., held at IIT Madras during Aug. 2-5, 2010, IIT Madras, IAHR and ICHE.
98. Mahesha, A., Vyshali, Lathashri, U.A. and Moumitha P. (2010). Studies on saltwater intrusion in Gurpur-Pavanje river basin, Karnataka. Proc. Nat. Seminar on Rainwater Harvesting and Artificial Recharge to Groundwater with special reference to Coastal Areas, Central Groundwater Board, Bangalore and Mangalore University, 53-60.
99. Vyshali and A.Mahesha, (2010). Saltwater intrusion into tropical, coastal basins – A case study. Paper presented at the National Conference on Sustainable Water Resources Management (SWARM-2010) held at NITK Surathkal during Jan. 7-8, 2010.
100. Ramesh, H. and A.Mahesha, (2010). Estimation of evapo-transpiration and crop water requirement in semi-humid region. Paper presented at the National Conference on Sustainable Water Resources Management (SWARM-2010) held at NITK Surathkal during Jan. 7-8, 2010.
101. Shetkar, R.V. and A.Mahesha, (2010). River water harvesting through vented dams. Paper presented at the National Conference on Sustainable Water Resources Management (SWARM-2010) held at NITK Surathkal during Jan. 7-8, 2010.
102. Vyshali, Moumitha P.C. and A.Mahesha, (2008). Saltwater intrusion assessment in the coastal D.K. district, Karnataka, Proc. National Conference on Advances in Civil Engg., ACE, Anjuman Engg. College, Bhatkal, 116-119.
103. Vyshali, U.A. Lathashri, P.C. Moumita and A.Mahesha, (2008). Studies on the vulnerability assessment of a coastal aquifer. Proc. International Groundwater Conference on Groundwater Dynamics and Global Change, March 19-22, 2008, University of Rajasthan, Jaipur, 143-144.

104. Shetkar Rajeev V. and A.Mahesha, (2008).Assessment of aquifer vulnerability to seawater intrusion through the tidal river of the tropical region. Proc. International Conference on Water Science and Technology, International Water Association, KCT Coimbatore and INRA, France, p.77.
105. Shetkar, R.V. and A.Mahesha, (2007). Tropical river basin development – A case study. Proc. Nat. Conf. Hydraul. Water Resour., HYDRO 2007, 32-38.
106. Shetkar Rajeev V. and A. Mahesha, (2007). Hydrological analysis of the Netravathi River flow for sustainable development, Proc. Indian National Conference on Harbour and Ocean Engineering, INCHOE, Dept. of Applied Mechanics & Hydraulics, NITK, Surathkal and NMPT Panambur, Vol II, 667-673.
107. Lathashri. U. A. and A. Mahesha, (2007). Assessment of aquifer vulnerability to saltwater in coastal Karnataka, Proc. Indian National Conference on Harbour and Ocean Engineering, INCHOE, Dept. of Applied Mechanics & Hydraulics, NITK, Surathkal and NMPT Panambur, Vol I, 9-17.
108. Vyshali, Moumita Palchoudhury and A.Mahesha, (2007). Simulation of saltwater intrusion in the coastal aquifer of Karnataka, Proc. Indian National Conference on Harbour and Ocean Engineering, INCHOE, Dept. of Applied Mechanics & Hydraulics, NITK, Surathkal and NMPT Panambur, Vol I, 34-41.
109. Shetkar R.V. and A.Mahesha (2006). Vented dam: An effective water harvesting structure across the river Netravathi, Karnataka, Proc. Int. Symp. Desalination and Water Purification: Water Resources and their Management, MNIT Jaipur & Indian Desalinization Association, p.99.
110. H. Ramesh and A.Mahesha, (2006). Steady groundwater flow modelling of Varada aquifer systems using finite element method, Proc. Int. Specialty Conf. Env. & Water Resour., EWRI of ASCE, New Delhi, pp.125.
111. H.Ramesh, MRY Putty and A.Mahesha, (2005). Computation of aquifer parameters using step drawdown pumping test. National Conf. on Hydraulics, Water Resources, Coastal & Environmental Engg (HYDRO 2005), SIT Tumkur, India, 171-179.
112. Mahesha A., and H. Ramesh, (2004). The role of participatory rural appraisal in water supply and sanitation project, Proc. Of National Symposium on Natural Resources Management for Sustainable Development, December 3-4, UVCE, Bangalore, 108-113.
113. Ramesh, H. and A.Mahesha, (2004). Watershed planning and management- an integrated approach, Proceedings of LAKE 2004, Int. Conf. on Conservation, Restoration and Management of Lakes and Coastal Wetlands, 9-13 December, 2004.
114. B.M. Doddamani, A. Mahesha and M.K. Nagaraj, (2003). Groundwater quality monitoring in aquifer management: A case study. Proc. 2<sup>nd</sup> International Conference on Water Quality Management, CBIP, held at New Delhi, I –77 to I- 83.
115. B.M. Dodamani, M.K. Nagaraj and A. Mahesha, (2003). Aquifer zonation based on electric resistivity test. Proc. National Conference on Hydraulics and Water Resources, HYDRO 2003, ISH Pune and CWPRS, Pune, pp 152-154.
116. M.K. Nagaraj, A. Mahesha and B.M. Doddamani, (2002). Spatial variability of aquifer parameters in a regional groundwater system. Proceedings of National Conference on Hydraulics, Water Resources and Ocean Engineering (HYDRO 2002) held at IIT, Bombay, 151-153.

117. A. Mahesha and M.G. Satish, (2001). Performance of battery of injection wells in coastal aquifers. International Conference on Civil Engineering, IISc, Bangalore, July 23 – 25.
118. M.K. Nagaraj, A. Mahesha, K. Subrahmanya and K.M. Shivananda, (2000). Sea Water Intrusion in Gurupur River – A Case Study. Proc. Of International Conference on “Innovative Technologies for Rural Water Supply and Environmental Sanitation” RUWATSS-2000 Vol. I, University of Roorkee, Roorkee, 159-172.
119. A. Mahesha and S.H. Nagaraja, (1993), Studies on advancing interface in coastal aquifers, Proc. 12<sup>th</sup> Sea Water Intrusion Meeting, Barcelona, Curso International de Hydrologia Subterranea, pp.333-341.
120. A. Mahesha and S.H. Nagaraja, (1993), Control of seawater intrusion through a battery of injection wells, Int. Conf. Hydrology and Water Resources, New Delhi, National Institute of Hydrology, Roorkee.

### **Book Chapters**

1. Mahesha A. and Nagaraja, S.H. (1996). Control of sea water intrusion through battery of injection wells. In: Singh, V.P. and Kumar, B. (Eds.) Water Quality Hydrology, Water Science and Technology Library, Vol 16, Springer, Dordrecht. [https://doi.org/10.1007/978-94-011-0393-0\\_12](https://doi.org/10.1007/978-94-011-0393-0_12)
2. Ramesh, H. and A.Mahesha, (2011). Sustainable Water Resources Management. 1-40. In: Sustainable Development by C. Ghenai (Ed), INTECH Publishers, Croatia. <http://dx.doi.org/10.5772/29493>
3. Sharannya, T.M., Mahesha, A. (2024). Assessing Hydrological Changes in Response to Climate and Anthropogenic Factors. In: Satheeshkumar, S., Thirukumar, V., Karunanidhi, D. (eds) Modern River Science for Watershed Management. Water Science and Technology Library, vol 128. Springer, Cham. [https://doi.org/10.1007/978-3-031-54704-1\\_5](https://doi.org/10.1007/978-3-031-54704-1_5)

### **Other Publications**

1. Ramesh, H. and A. Mahesha, 2006. Conjunctive use of groundwater and surface water- An overview, NITK Research Bulletin, 14(2), 1-6.
2. S.G. Mayya, N. Lakshman, M.K. Nagaraj, A. Mahesha, Mr. Manu, 2003. Rural water supply scheme under Rajiv Gandhi Drinking Water Mission for Eleven Villages of Mangalore Taluk, Final Design Report, 264 pp.
3. S.G. Mayya, N. Lakshman, M.K. Nagaraj, A. Mahesha, 2002. Rural water supply scheme under Rajiv Gandhi Drinking Water Mission for eleven villages of Mangalore Taluk, Conceptual Design Report, 178 pp.
4. S.G. Mayya, N. Lakshman, M.K. Nagaraj, A. Mahesha, 2001. Pre-feasibility report for the vented dam across the Gurupur River. D.K.Zilla Panchayath, Mangalore, 28 pp.

## **Doctoral Research Supervision**

Completed – 13; Ongoing-3

Sl No	Name of the Scholar	Title of the Thesis	Year of award
1.	Vinod, D.	Development of seasonal non-stationary IDF relationships at river basin scale under changing climate	Thesis submitted
2.	Surajit Deb Berma	Evaluation of the water budget components of the Brahmaputra River basin using satellite data	2023
3.	Chythanya Krishnan	Spatio-temporal analysis of rainfall and groundwater modeling in the west coast basins of India	2023
4.	Sharannya T.M.	Hydrological Impact of Land Use and Climate Change on the West Coast River Basins of Karnataka	2022
5.	Dineshkumar M.	Multivariate Analysis of Hydro-Meteorological Extreme Events	2022
6.	Amogh M.	Assessment of climate change impacts on river basins originating in the Western Ghats of India	2017
7.	K. Subrahmanya	Hydro-geological studies on coastal wetland – A case study	2017
8.	Lathashri U.A.	Predictive Simulation of Flow and Solute Transport for Managing the Coastal Aquifer of Dakshina Kannada District, Karnataka, India	2016
9.	Chandre Gowda C. (co-guide)	Stream flow modeling technique for ungauged catchments and operation policy for vented dams in series	2015
10.	S.S.Honnana Goudar (Co-guide)	Studies on aquifer characterization and seawater intrusion vulnerability assessment of coastal Dakshina Kannada District	2015
11.	Vyshali	Studies on saltwater intrusion in coastal D.K. district.	2009
12.	Rajeev Shetkar	Studies on the efficacy of vented dams across the rivers of the DK district	2009
13.	B.M. Dodamani	Groundwater assessment and management for a coastal aquifer system	2008
14.	H. Ramesh	Integrated water resources management for sustainable development	2008
15.	Swarna Latshmi	Climate Change Impact on Droughts in India	Ongoing
16.	Ravichandra M.	Potential of Hydro-Dynamic Models for the Assessment of Flood Risk in Tidal-Influenced Maigne River Catchment, Ireland	Ongoing

## **R& D Projects**

1. *Impact of Climate Change Impact on Water Resources in River Basins from Tadri to Kanyakumari – River Basin Scale Analysis*. Ministry of Jal Shakti, Govt. of India. 2018-22; 34.159 Lakhs. (PI: Prof. Eldho, IIT Bombay; Co-PIs: Amai Mahesha, Amba Shetty, K. Varija and H. Ramesh)

2. *Unravelling Submarine Groundwater Discharge (SGD) zones along the Indian Subcontinent and its islands (Mission SGD)- Pilot Study.* Ministry of Earth Science, Govt. of India. 2018-22. 17.16 Lakhs (Co-PI)
3. *Strengthening PG teaching and research – Spectro radiometer and Random wave generator with accessories.* Dept. of Science & Technology, Govt. of India. 2014-19. 220 Lakhs (Co-PI)
4. *Status report on the efficacy of vented dams across the river Netravathi.* Dept of Science & Technology, Govt. of India. 2007-08. 0.4 Lakhs.
5. *Studies on saltwater intrusion in coastal D.K. district.* Ministry of Water Resources, Govt. of India. 2004-08; 14.5 Lakhs.
6. *Groundwater assessment and management of NMPT area.* New Mangalore Port Trust, Mangalore. 2000-03, 6.5 Lakhs (Co-PI).

### **Consultancy Works**

1. *Feasibility study on coastal reservoir construction to impound Netravathi River flood waters: A sustainable strategy for water resources development for Mangalore.* Chairman, CSSP, Indian Institute of Science, Bengaluru- 12. May – Aug. 2017.
2. *Inspection and assessment of removable sand quantity in sand bars of Netravathi, Gurpur, Nandini and Shambhavi Rivers of DK dist.* Dy. Director, Dept of Mines & Geology, Mangalore. January – May 2017.
3. *Inspection and assessment of removable sand quantity in sand bars of Kali, Gangavali and Aghanashini Rivers of UK dist.* Dy. Director, Dept of Mines & Geology, Karwar. January – February 2017.
4. *Inspection and assessment of removable sand quantity in sand bars of Sharavathi, UK dist.* Dy. Director, Dept of Mines & Geology, Karwar. August – December 2016.
5. *Surge analysis for lift 3 of Chintalpudi irrigation schemes.* Superintending Engineer, ISRMC Circle, Eluru, AP. May -September 2013. (Co-PI).
6. *Surge analysis for lift 2 & 3 of Chintalpudi irrigation schemes.* Superintending Engineer, ISRMC Circle, Eluru, AP. May-July 2013. (Co-PI).
7. *Surge analysis for lift 1,2 and 3 of Chintalpudi irrigation schemes.* Superintending Engineer, ISRMC Circle, Eluru, AP. March – September 2013. (Co-PI).
8. *Comprehensive study for drainage system for MSEZ land during 2012 monsoon.* MSEZ Ltd., Mangalore, February – May 2012. (Co-PI).
9. *Comprehensive study for the effect of river water level during flood conditions due to the strengthening of the river bank of Gurpur river on the Panambur side.* MSEZ Ltd., Mangalore, February – April 2012 (Co-PI).
10. *Comprehensive drainage system for underground streams in MSEZ-graded plots.* MSEZ Ltd., Mangalore, February – May 2012 (Co-PI).
11. *Storm water drainage study in MRPL, MSEX Corridor and OMPL areas.* MSEZ Ltd., Mangalore. April – June 2010 (Co-PI).
12. *Adequacy of drainage in the MSEZ area.* MSEZ Ltd., Mangalore. April -June 2009 (Co-PI).
13. *Cost estimation of AMR dam.* MSEZ Ltd., Mangalore. March – May 2009 (Co-PI).
14. *Hydrogeology of Kudur Farm, Kundapur.* Biome Env. Soln. Pvt. Ltd., Bangalore. May – July 2006. (Co-PI).



15. *Consultancy on the adequacy study of the existing raw water system.* MRPL, Mangalore. May -September 2007. (Co-PI).
16. *Depth and yield of well along the bank of river Netravathi.* Pavoor Gram Panchayat, Pavoor. February -April 2007.
17. *Yield test of a new open well.* NMPT Mangalore. March – May 2006.
18. *Design of water storage tanks at the ground level.* Mangalore Refineries and Petro Chemicals Ltd. May – September 2005 (Co-PI).
19. *Yield Test for open and bore wells in the campus.* Resident Engineer, NITK, Surathkal. January -May 2005.
20. *Design of effluent treatment plant.* New Pai Sales Corporation, Mangalore. September- November 2003.
21. *Design of Vented Dam at Maravoor for rural water supply project for 11 villages of Mangalore Taluk from Gurupur River under Rajiv Gandhi Drinking Water Mission.* D.K. Zilla Panchayath Mangalore. 2002-14. (Co-PI).
22. *Investigations on water logging and source of pollution around MRPL.* January – May 2000. (Co-PI)
23. *Design of Oil catcher.* Mangalore Refinery & Petrochemicals Ltd., Mangalore. January – March 1999. (Co-PI).
24. *Design of Storm Water Drainage.* Mangalore Refinery & Petrochemicals Ltd., Mangalore. 1997-98 (Co-PI).

### **Administration**

#### **Institute Level:**

1. Faculty in-charge of Guest House (2013 – 2015)
2. Associate Dean (PG & Research) – Aug. 2007 – Aug. 2010.
3. QIP Coordinator – Jan. 2008- Aug. 2010.
4. Member, Implementation Committee, DASA – 2010
5. Presiding Officer for JMET, GATE and JEE during 2008, 09 and 2010.
6. Member, Common Admission Committee for MTech Program for NITs
7. Academic Committee for Convocation during 2008, 2009 and 2010
8. Member, Senate (2007-till date)
9. Convener of Green Engineering during Engineer 2008, 09 and 10.
10. Faculty Adviser for Events during INCIDENT of 2008, 09 and 10.
11. Member, Anti-Ragging Committee during July – September of 2008, 09 and 10.
12. Counselor, IGNOU for Open Channel Flow and Hydraulic Structure for Civil Engg Students during 2008, 09 and 10.
13. Member, Institute Water Management Committee

### Department Level:

1. Head of the Department: March 2017-March 2019
2. Chairman DRPC, DPGC 2017-19
3. Coordinator for M. Tech. (WREM) Accreditation program 2014-15
4. Departmental coordinator for B.Tech. (Civil) Accreditation 2013-14
5. Departmental TEQIP Coordinator 2004-09.
6. Departmental Academic Affairs Committee during 2004-2009.
7. Secretary, DPGC during 2005-06.
8. Time-table In-charge 2001-2004.
9. Secretary DRPC during 2006-07.
10. Chairman, DUGC- 2011-12.

### Awards

**Prof. Satish Dhawan State Award 2012-** The Department of Science & Technology, Govt. of Karnataka conferred Prof. Amai Mahesh with Prof. Satish Dhawan Young Engineer State Award 2012.



*Prof. Satish Dhawan Young Engineer State Award 2012* was conferred to Dr. Amai Mahesh by the Honorable Chief Minister of Karnataka on June 16, 2014, at the Award ceremony held at JN TATA Auditorium, IISc, Bangalore.

**Master's Thesis supervision**

Sl No	Students	Title of the Thesis	Year
1	Renuka, S.	Modeling of short-term meteorological drought under changing climate over Gujarat, India	2024
2	Sourab Desai	Compound extremes under changing climate	2024
3	Harikrishna, M.	A multivariate Index-Flood approach for flood frequency analysis in ungauged watersheds	2024
4	Archana, T.R.	Decadal trends and climatic influences on flash droughts and flash floods in Indian cities	2024
5.	M. Salim Anser	Multi-Layer Perceptron Based Groundwater Modeling Using IMERG Precipitation Data: A Comparative Study of Optimization Algorithms	2023
6.	Rajendra Raj	Downscaling algorithms for CMIP6 GCM daily rainfall over India	2023
7.	Jagrathi Gautham	Evaluation of GPM IMERG satellite precipitation for rainfall-runoff modelling in Great Britain	2023
8.	Besty Benny	Fortnightly SPI trend analysis for drought characterization in India	2023
9.	Devi Krishna	Impact of climate change on streamflow of Kariangode River basin	2022
10.	Aiswarya Jayakumar	Rainfall-runoff simulation approaches for Manimala River basin, Kerala	2022
11.	Jadhav Shivanand	Impact of climate change on lower Krishna basin flow	2022
12.	Roopesh M.	Estimating irrigation water use by high-resolution remote sensing soil moisture	2022
13.	Manikandan S.	Water balance modelling of large rivers using mSIM	2020
14.	Amrutha K.	Characterizing the effects of large-scale climatic phenomena on drought in India using wavelet coherence	2020
15.	Uttarwar Sameer Balaji (M.Tech. by Research)	Risk assessment of hydro-climatic variables on groundwater levels in humid, tropical coastal aquifers using bivariate Archimedean copulas	2019
16.	Krishna S.	Sensitivity analysis of a conceptual, lumped model using VARS-TOOL	2019
17.	Sruthi S. Kumar	Simulation of flow and solute transport for the coastal aquifer of the Pavanje River basin using mSim toolbox and COMSOL multi-physics	2019
18.	B. Suresh	Feature extraction by using MOD 13Q1 data: A case study on the Rayalaseema region	2018
19.	Namitha E.S.	Land use land cover change and climate change impact on surface water-groundwater interaction at Netravathi River basin	2018
20.	Arya Sajeev	Temporal bivariate drought characterization of two contrasting climates in India using copula	2018
21.	Sharannya T.M.	Hydrologic impact of climate change on Gurupura catchment, Karnataka	2017

22.	Anjali V.	Trend analysis of climatic variables and extreme indices for Kerala	2016
23.	Haritha M.	Trend analysis of rainfall and evaluation of standardized precipitation index for Karnataka	2016
24.	Vijay Suryawanshi	Assessment of soil erosion and groundwater potential of Pavanje River basin	2016
25.	Shivali Dubey	A global view of variations in aerosol optical properties using OMI data sets (2005-2014)	2016
26.	Vineeth V.	Evaluation of domestic water tariff	2015
27.	Hima Bindu B.	Design of proposed rural water supply scheme from Gurpur River	2015
28.	Jibin Joseph	River basin scale hydrological modeling and climate change impact assessment using SWAT	2015
29.	K. Indu Sowmya	Simulation of shallow water waves along the west coast of Karnataka using the SWAN wave model	2014
30.	Neenu K.	Studies on the effect of freshwater draft on saltwater intrusion in coastal aquifers	2014
31.	Pankaj Dhote	Modeling of river-aquifer interactions: A case study	2014
32.	M. Shafeer K.T.	Construction delay analysis	2013
33.	Vysakh A.	Risk management of construction companies in the context of recession	2013
34.	Vijayalaxmi	Cash flow projection refinement using risk analysis	2013
35.	Usha A..	Characterization of large diameter wells in shallow, coastal unconfined aquifers	2013
36.	Priyanka B.N.	Parametric studies on saltwater intrusion into coastal aquifers using SEAWAT	2013
37.	Shashidhar	Watershed characterization of sub-basin of the Gurpur River	2012
38.	Seethalraj	Deficit irrigation management for some major tropical crops	2012
39.	Archana Kumar	Climate change impact on west-flowing rivers of Karnataka	2012
40.	Sumanth Shetty	Studies on instream water storage of Pavanje River in the marine environment	2011
41.	Arjun Rao	Urban flood modeling using LiDAR data	2011
42.	Santhosh, K.C.	Groundwater flow and transport modeling of Pavanje basin using GMS	2011
43.	Mythri DJ	Effect of climate change on Netravathi River flow	2010
44.	Archana	Hydrological analysis of Pavanje River	2010
45.	Jugul P. Saldanha	Characterization of coastal aquifer system – A case study	2009
46.	Lathasri UA	Assessment of Vulnerability of Coastal Aquifer to Saltwater Intrusion	2007
47.	Moumita P.C.	Saltwater intrusion modeling using SUTRA	2005
48.	Nageshwara Rao	Draft operation policy for coastal aquifers	2004
49.	Lakshmikanth	Performance of the subsurface barrier under multiple freshwater pumping scenarios against saltwater intrusion in coastal aquifers	2003
50.	Rahim Khan P.	Effect of subsurface barrier for the control of saltwater intrusion under multiple drawdown conditions	2002
51.	G. Nagasekhar Reddy	Subsurface barrier analysis for the control of saltwater intrusion	2001

52.	P.V. Sathyanarayana	Effect of subsurface barrier on saltwater intrusion	2000
53.	Mohan Babu	Effect of spatial variability of hydraulic conductivity on saltwater intrusion	1999
54.	Shivanand K	Studies on water quality around the MRPL area	1998

### **B.Tech. Project supervision**

Sl No	Students	Title of the Thesis	Year
1.	G. Chaurasia, R. Meena and S. Saroha	Interface for groundwater level prediction using deep learning	2022
2.	Mr. Niranjan A. (co-guide)	Hydraulic transients in water conveyance system	2014
3.	Ms. Vinitha C	Effect of fresh water pumping in salt water intruded areas	2003

### **Courses Organized/ Coordinated**

1. National Workshop on “Conservation of West Flowing Rivers in Coastal Karnataka” held at NITK Surathkal during Dec. 14-15, 2012 – Joint Secretary.
2. Deans’ (Academic) Meet of NITs held at NITK Surathkal during April 3-4, 2010 – Coordinator
3. **National Conference** on Sustainable Water Resources Management (SWaRM- 2010) held at NITK Surathkal during Jan. 7-8, 2010 – Joint Secretary.
4. Refresher course on ‘**Irrigation Water Management**’ for PWD and Irrigation Engineers of Karnataka held at NITK, Surathkal during Aug.6-10, 2007.
5. **ISTE Winter School on Water Resources Assessment and Management** held at KREC, Surathkal during 8-20 January, 2001 (Joint Organizer).
6. **Finite Element Course** for KPCL Engineers held at SJCE, Mysore, during 15-20 November 1999 (Joint Organizer).
7. **Refresher Course on Hydrology** for Engineers for PWD Engineers held at KREC, Surathkal during Aug. 19 – 23, 1997.

### **Invited Talks**

1. *Impacts of climate change on river basins of Kerala and Karnataka* at the National Symposium on Hydrological Impacts of Climate Change and Land Use Change on Water Resources of River Basins in Kerala held at CWRDM during May 27-28, 2022.
2. *Coastal aquifers of the west coast and sea water intrusion* at the conference on Water Resources of Peninsular India’ held at Satish Dhawan Auditorium, IISc, Bengaluru during Feb. 11-13, 2020.
3. *Impact of climate change on river basins of Karnataka* at the National Workshop on Water Resources of River Basin Scale held at IIT Bombay during November 15-16, 2019.



4. *Saline water intrusion in coastal aquifers* at the three-day workshop on coastal reservoirs as a sustainable strategy for water security held at NITK Surathkal during 22-24 July, 2019.
5. *Storage schemes for water supply projects* at the CCE Course for PWD Engineers held at NITK Surathkal during Aug. 24-28, 2015.
6. *Design of Vented dams* at the CCE Course for PWD Engineers held at NITK Surathkal during July 27-31, 2015.
7. *Design of Anicuts* at the CCE Course for PWD Engineers held at NITK Surathkal during July 27-31, 2015.
8. *Micro hydel plants along Netravathi river from storage perspective* at the National Conference on Renewable Energy Systems and Engineering held during November 7-8, 2014 at the Vivekananda College of Engineering & Technology, Puttur, Karnataka.
9. *Application of Galerkin finite element method* – Short term course on application of Finite Element Method in Civil Engineering, May 30-June 3, 2011, NMAMIT Nitte.
10. *Galerkin finite element method* – Short term course on Application of Finite Element Method in Civil Engineering, May 30- June 3, 2011, NMAMIT Nitte.
11. *Canal recharge* – Refresher course for PWD Engineers held at NITK during October, 2008.
12. *Coastal aquifer management* – AICTE/ISTE Summer school on ‘Water Resources Development and Management’ held at NITK Surathkal during July 28- Aug. 8, 2008.
13. *Micro-irrigation system* – Refresher Course for PWD and Irrigation Engineers of Karnataka at NITK Surathkal during Aug. 6-10, 2007.
14. *Coastal aquifers management*- Refresher Course for PWD Engineers at NITK Surathkal during 18-21 December, 2006.
15. *Control of seawater intrusion in coastal aquifers* -- UGC/SERC School on Modeling Groundwater Pollution during 2-29 May, 2005 at UVCE Bangalore.
16. *Saltwater-freshwater interfaces in coastal aquifers*- UGC/SERC School on Modeling Groundwater Pollution during 2-29 May, 2005 at UVCE Bangalore.
17. *Urban drainage system*- AICTE/ISTE Winter school on Design and Management of Urban Core Infrastructure in India during Dec. 20-31, 2004 at NITK, Surathkal.
18. *Finite element application to groundwater modeling*- AICTE/ISTE Winter school on Finite Element application to Engineering Problems, during Dec. 6- 18, 2004 at NITK, Surathkal.
19. *Galerkin finite element method*- AICTE/ISTE Winter school on Finite Element application to Engineering Problems, during Dec. 6- 18, 2004 at NITK, Surathkal.
20. *Salt water intrusion problems-data collection, simulation and validation of numerical model.* - Work shop on Latest Trends in Ground Water Assessment and Management held at NITK, Surathkal during 18-20 June, 2002.
21. i) *Numerical techniques in Groundwater modeling*; ii) *Mathematical modeling of saline water intrusion* – at the faculty training course on Groundwater Assessment Techniques held at CWRDM, Calicut during October 3 – 20, 2001.
22. *Ground water Management in Coastal Areas - Methods to Combat Salt Water Intrusion* - at the AICTE/ISTE Winter school on Role of Geology and Geotechnology in Country Planning and development held at KREC, Surathkal during Dec. 27, 1999-Jan. 8, 2000.

23. *Seepage Analysis Under Gravity Dams Using Finite Element Method* - at the Finite Element Course for KPCL Engineers held at SJCE, Mysore during 15-20 November, 1999.
24. *Weighted Residual Methods* - at the Finite Element Course for KPCL Engineers held at SJCE, Mysore during 15-20 November, 1999.
25. *Hydrographs* - at the Refresher course on Hydrology for PWD Engineers held at KREC, Surathkal during 9-13 November, 1998.
26. *Well design and maintenance* - at the refresher course on Hydrology for PWD Engineers held at KREC, Surathkal during 9-13 Nov., 1998.
27. *Ground water Flow Modelling using Finite Elements* - at the Course on Finite Element Method on April 24, 1998 at KREC, Surathkal.
28. *Salt-water intrusion and its prevention* at the workshop on Ground water Development on Jan. 17, 1998 held at M.I.T., Manipal.

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