

## Curriculum Vitae

### Dr. Aboobacker Valliyil Mohammed

Research Associate Professor

Environmental Science Center, Qatar University

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### EDUCATION

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<b>Ph.D. (Marine Sciences)</b>	2005 - 2011	Goa University, India
<b>M.Sc. (Oceanography)</b>	2001 - 2003	Cochin University of Science and Technology, India
<b>B.Sc. (Mathematics)</b>	1998 - 2001	Calicut University, India

### CAREER HISTORY

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Period	Employer	Position
March 2022 – till date	Qatar University	Research Associate Professor
September 2019 – March 2022	Qatar University	Research Assistant Professor
April 2015 – July 2019	King Abdulaziz University, Jeddah, Saudi Arabia	Assistant Professor
September 2011 – Feb 2015	National University of Singapore, Singapore	Research Fellow (Post-doc)
March 2009 – September 2011	National Institute of Oceanography, Goa, India	Research Fellow
July 2008 – March 2009	Mouchel International, Dubai, UAE	Numerical Modeller
October 2006 – July 2008	COWI A/S, Doha, Qatar	Numerical Modelling Engineer
January 2004 - September 2006	National Institute of Oceanography, Goa, India	CSIR Research Fellow

### PROFESSIONAL MEMBERSHIPS

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- American Geophysical Union (AGU) – Membership No.: 213232
  - European Geosciences Union (EGU) – Membership No.: 452646
  - Ocean Society of India (OSI) – Lifetime Member – Membership No.: LM-377

### AWARDS/FELLOWSHIPS

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- Junior Research Fellowship (JRF) and Lectureship granted by Council of Scientific and Industrial Research (CSIR), India in November 2003.
  - Senior Research Fellowship (SRF) granted by Council of Scientific and Industrial Research (CSIR), India in January 2005.

### RESEARCH INTERESTS

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Physical Oceanography; Coastal Processes; Numerical Modelling; Environmental Impact Assessment; Marine Biogeochemistry; Marine Pollution; Climate Change; Marine Renewable Energy.

## SUMMARY OF EXPERTISE

<b>Courses taught at Qatar University</b>	<ul style="list-style-type: none"> <li>• MARS 101 - Introduction to Marine Sciences (Fall 2023)</li> <li>• BIOL 496 L60: Senior Project, 15318 (Fall 2021; Spring 2022)</li> </ul>
<b>Courses taught at King Abdulaziz University, Jeddah</b>	<ul style="list-style-type: none"> <li>• Dynamical Oceanography I (MP430): Fall 2015; Fall 2016 (2 classes); Fall 2017; Spring 2018</li> <li>• Oceanography of Adjacent Seas (MP432): Fall 2016</li> <li>• Nearshore Physical Processes (MP433): Fall 2015; Fall 2016</li> <li>• Dynamical Oceanography II (MP434): Spring 2016; Spring 2017</li> <li>• Geophysical Fluid Dynamics (MP620): Fall 2018</li> <li>• Oceanographic Data Processing (MSC304): Spring 2019 (2 classes)</li> </ul>
<b>Thesis Supervision/co-supervision</b>	<ul style="list-style-type: none"> <li>▪ 1 PhD thesis at Qatar University: Haseeba KP (Spring 2023 - ongoing). Title: "Fish larval transport and dispersal in the mangrove regions of Qatar".</li> <li>▪ 1 MSc Dissertation at Qatar University: Ayisha Izza (Student from Kannur University, India) (Spring 2023). Title: "Water quality status of Doha Bay, central Arabian Gulf".</li> <li>▪ 1 BSc Senior Project at Qatar University: Jawaher Mohamed Al Azba (Fall 2021-Spring 2022; co-supervised). Title: "Role of physical oceanographic processes on water quality in the Doha Bay".</li> <li>▪ 1 BSc Senior Project at Qatar University: Arafa Mohamed (Fall 2022-Spring 2023; Reader). Title: "Accumulation of Microplastics in the Guts of Commercial Fish in the Qatar Waters".</li> <li>▪ 1 PhD thesis at King Abdulaziz University, Saudi Arabia: Shanas PR – (2015-2019; co-supervised). Title: "Numerical modelling study of wind wave variability in the Red Sea".</li> <li>▪ 1 BSc student project at King Abdulaziz University, Saudi Arabia: Mustafa Falimban (Fall 2016; supervised). "SST variability in the Red Sea during 2006-2015"</li> <li>▪ 1 MSc intern at National University of Singapore: Bassem Maddy (Spring 2014; co-supervised). Title: "Hydrodynamic modelling in the Singapore Strait".</li> <li>▪ 1 MSc dissertation student at National Institute of Oceanography, India: Vinodkumar K (2009-2010; co-supervised). Title: "Simulation of hydrodynamics in the central west coast of India during Cyclone Phyan".</li> </ul>
<b>PI/co-PI</b>	<ul style="list-style-type: none"> <li>➤ Acted/Acting as a PI/co-PI for funded research projects, coastal development projects and student grants in Singapore, Saudi Arabia and Qatar.</li> </ul>
<b>Industrial/external trainings given</b>	<ul style="list-style-type: none"> <li>✓ Training given to a PhD student on MIKE21 modelling package during 2015 at King Abdulaziz University, Jeddah.</li> <li>✓ Training on "Oceanography" for the professionals from Defence Science and Technology Agency (DSTA), Singapore conducted by the Tropical Marine Science Institute, National University of Singapore: 27 Jan 2014.</li> <li>✓ Training on "Numerical modelling using MIKE 21/3" for the professionals from Defence Science and Technology Agency (DSTA), Singapore conducted by the Tropical Marine Science Institute, National University of Singapore: 28-29 Jan 2014.</li> <li>✓ Training on "Ocean waves" for the participants from Indian Navy conducted by National Institute of Oceanography ( 1 day training in 2015).</li> </ul>
<b>Internal trainings given</b>	<ul style="list-style-type: none"> <li>• Trained the junior research/project fellows in the team on "Numerical modelling using MIKE 21/3" at National University of Singapore (2012-2013).</li> <li>• Trained the dissertation students/project fellows/young scientists on "MIKE 21 hydrodynamic modelling" at National Institute of Oceanography, India (2010-2011).</li> </ul>

	<ul style="list-style-type: none"> <li>Trained the dissertation students/project fellows/young scientist on “MIKE 21 wave modelling” at National Institute of Oceanography, India (2005-2006).</li> <li>Trained the junior engineers on “Numerical modelling using DHI models” at COWI A/S, Qatar (2006 – 2008).</li> <li>Trained the junior engineers on “Numerical modelling using DHI models” at COWI India Pvt. Ltd, India (2008).</li> </ul>
<b>Data analysis &amp; Numerical modelling</b>	<ul style="list-style-type: none"> <li>✓ Processed and analyzed historical met-ocean data measured at various locations.</li> <li>✓ Analyzed long-term hindcast data obtained from global reanalysis and forecast products such as NCEP/NCAR and ECMWF.</li> <li>✓ Analyzed satellite observations of winds and waves from various sources.</li> <li>✓ Carried out numerical modelling of wind-waves, currents, flushing, dredge/sediment spill, littoral drift, sediment transport, larval dispersal and water quality.</li> </ul>
<b>Data collection</b>	<ul style="list-style-type: none"> <li>Carried out meteorological data collection using Wind Vane and Automatic Weather Station in the land as well as onboard research vessels.</li> <li>Carried out wave, tide and current measurements using RCM, WLR, Wave Rider buoy and ADCP.</li> <li>Collected oceanographic parameters using CTD onboard research vessels.</li> <li>Collected seawater samples using Niskin and Rosette water samplers.</li> <li>Collected ocean temperature data using XBT.</li> <li>Collected bed sediment samples using Van Veen Grab.</li> <li>Surveyed nearshore bathymetry using Echo sounder.</li> </ul>
<b>Reviewer of journals</b>	<p>Reviewed manuscripts for the following journals:</p> <p><i>Climate Dynamics; International Journal of Climatology; Ocean Engineering; Applied Energy; Journals of Cleaner Production; Marine Pollution Bulletin; Applied Ocean Research; Pure and Applied Geophysics; Journal of Coastal Research; Advances in Structural Engineering; Regional Studies in Marine Sciences; Indian Journal of Geo-Marine Sciences; Thalassas; Water Resources and Economic; Earth System Environment; IETE Technical Review; ISH Journal of Hydraulic Engineering; Journal of Marine Science Applications; International Journal of Hydrology Science and Technology; Journal of King Abdulaziz University – Marine Sciences; Marine Technology Society Journal.</i></p>
<b>Programming/ Software Skills</b>	<ul style="list-style-type: none"> <li>➤ MIKE 21 SW, BW and NSW</li> <li>➤ MIKE 21/3 HD, AD, MT, PT and SA</li> <li>➤ Litpack, EVA</li> <li>➤ WAM, WW3, SWAN, Delft3D</li> <li>➤ FORTRAN, Ferret, Surfer, Grapher</li> </ul>
<b>Reporting</b>	<p>Written several scientific papers, project proposals &amp; reports; prepared PowerPoint presentations and participated in various meetings including tender briefing &amp; clarifications.</p>

#### **LIST OF FUNDED RESEARCH PROJECTS HANDLED**

<b>Year</b>	<b>Title</b>	<b>Grant/Agency</b>
2023-2024	Historical accumulation of microplastics in the core sediments within the EEZ of Qatar	Collaborative Grant / Qatar University
2023-2026	Fish larval transport and dispersal in the mangrove regions of Qatar	Graduate Research Assistantship /Qatar University

2022-2023	Circulation, flushing and associated biogeochemical changes in Doha Bay under varying climate conditions	Collaborative Grant / Qatar University
2022-2023	The biogeochemistry and circulation in the Exclusive Economic Zone of the State of Qatar (Central Arabian Gulf): Phase 2	QAFCO Research and Development Grant
2022	Variability of currents in the EEZ of Qatar	Student Grant, Qatar University
2021-2024	Oceanography of the Arabian Gulf with particular reference to EEZ of Qatar	UNESCO-Chair in Marine Sciences, Qatar University
2021-2023	Increasing the TRL of the Mushroom Forest Artificial Reef (MFAR)	High Potential Program (H3P) / Qatar University
2019-2022	Impact on the coastal environment of Qatar due to natural and anthropogenic stressors	International Research Collaboration Co-Fund (IRCC-2019-002), Qatar University.
2021	The biogeochemistry and circulation in the Exclusive Economic Zone of the State of Qatar (Central Arabian Gulf) – Phase 1	QAFCO Research and Development Grant
2021	Role of physical oceanographic processes on water quality in the Doha Bay	Student Grant, Qatar University
2018-2019	Numerical Modelling of hydrodynamics at Strait of Tiran, southern Gulf of Aqaba	Deanship of Scientific Research, King Abdulaaziz University
2017-2018	Wind wave characteristics and their impacts along the south-eastern coast of Red Sea	Deanship of Scientific Research, King Abdulaaziz University
2016-2017	Nearshore wave transformation off Jeddah, west coast of Saudi Arabia	Deanship of Scientific Research, King Abdulaaziz University
2016-2017	Tidal analysis and forecasting in the Red Sea	Deanship of Scientific Research, King Abdulaaziz University
2011-2013	Coastal Inundation Risk Map Study for Singapore (Project Management)	Building and Construction Authority, Singapore
2011-2013	Part-1: Data analysis and statistical downscaling	Building and Construction Authority, Singapore
2011-2013	Part-2: Dynamical downscaling of wind waves	Building and Construction Authority, Singapore
2011-2013	Part-3: Dynamical downscaling of ocean parameters (ROMS)	Building and Construction Authority, Singapore
2011-2013	Part-4: Dynamical downscaling of sea level extremes and storm surges	Building and Construction Authority, Singapore

#### ***LIST OF MAJOR CONSULTANCY/SPONSORED PROJECTS HANDLED***

<b>Year</b>	<b>Title</b>	<b>Client</b>
2019	Numerical Modelling Study for the coastal development at Al Qahma	Environmental Balance Establishment, Jeddah
2018	Numerical Modelling Study for Saudia Desalination Plant in Jeddah	Environmental Balance Establishment, Jeddah
2017	Numerical Modelling Study for the Proposed Desalination Plant at Rabigh	Environmental Balance Establishment, Jeddah

2015	Thermal Plume Dispersion Modelling for MARAFIQ IWPP	Jubail O&M Company Limited (JOMEL), Saudi Arabia
2014-2015	Beach Erosion and Mitigation Studies at Changi Coast	National Service Resort & Country Club, Singapore
2013-2014	Hydrodynamic Study at Changi Naval Base	Defence Science & Technology Agency, Singapore
2012-2014	Environmental Impact Assessment of future Desalination Plants in Singapore	Public Utility Board, Singapore
2011 -2014	Long term ecological, water and sediment quality monitoring, and numerical modelling of the sea waters around singapore	Public Utility Board, Singapore
2010-2011	Marine environmental Impact Assessment Studies for setting up of Coal based Saurashtra Super Thermal Power Plant and for the Construction of Captive Coal Jetty at Gojiness in Jamnagar, Gujarat.	Universal Crescent Power Pvt Ltd., (UCPPL) Noida, India.
2008-2009	Numerical modelling for the World Island Resort, Dubai	Limitless, UAE
2008-2009	Marine survey supervision at Lulu Island, Abu Dhabi	Sorouh, UAE
2008	Wave modelling for the Buobyan Sea Port, Kuwait	Ministry of Public Works, Kuwait
2007-2008	Operational Downtime Assessment for the Musandam Loading Facility, Oman	Rock Equipment S.A., UAE
2007	Hydraulic studies for Al Houara Resort, Morocco	ERGA Group S.A.L, Morocco
2007	Numerical modelling study for Al Zorah Coastal Development, Ajman	Solidere International, UAE
2007	Khalifa Port and Industrial Zone Project, Abu Dhabi: Design and construction of marine structures; Dredging and Reclamation	Dredging International, UAE
2006-2007	Hydraulic studies for Al Wakrah Port and Jetty, Qatar	Supreme Council for Environment and Natural Reserves, Qatar
2005	Demarcation of inland vessel's limit (IVL) off Mormugao Port region including Panaji – a pilot study	Directorate General of Shipping, Mumbai

#### **PUBLICATIONS IN PEER-REVIEWED JOURNALS**

1. Lecart, M., Dobbelaere, T., Alaerts, L., Randresihaja, N.R., **Aboobacker, V.M.**, Vethamony, P., Hanert, E., 2024. Land reclamation and its consequences: A 40-year analysis of water residence time in Doha Bay, Qatar, *PLoS ONE* 19(1): e0296715.
2. Abdulla, C.P., **Aboobacker V.M.**, Vethamony, P., 2023. Climate, trends, and variability of extreme winds along the southwest coast of India, *International Journal of Climatology*, 43:7775–7794.
3. Giraldes, B.W., Ananth, W., Al-Mohannadi, H.S., Khalid B. ; Maryam, A. ; Giraldes, E.W., Heally, S., Mello, E., Mathew, D., Range, P., **Aboobacker, V.M.**, P. Vethamony, Baldock, T., 2023. Enhancing subsea asset performance: Investigating the biomimetic functionality of the Mushroom Reef design in hydrodynamics, stability, and sedimentation, *Ocean Engineering*, 287, 115850.
4. Swathy Krishna, P.S., **Aboobacker, V.M.**, Madipally, R., Sheela Nair, L., 2023. Remotely induced storm effects on the coastal flooding along the southwest coast of India, *Oceanologia*, 65, 503-516. <https://doi.org/10.1016/j.oceano.2023.03.003>.
5. Hanert, E., **Aboobacker, V.M.**, Veerasingam, S., Dobbelaere, T. Vallaey, V., Vethamony, P., 2023. A multiscale ocean modelling system for the central Arabian/Persian Gulf: From regional to structure scale circulation patterns, *Estuarine, Coastal and Shelf Science*, 282, 108230. <https://doi.org/10.1016/j.ecss.2023.108230>.

6. Al-Ansari, E.M.A.S., Husrevogulu, Y.S., Yigiterhan, O. Youssef, N., Al-Maslamani, I.A., Abdel-Moati, M.A., Al-Mohamedi, A.J., **Aboobacker, V.M.**, Vethamony, P., 2022. Seasonal variability of hydrography off the east coast of Qatar, central Arabian Gulf, *Arabian Journal of Geosciences* 15, 1659. <https://doi.org/10.1007/s12517-022-10927-4>.
7. Abdulla, C.P., **Aboobacker V.M.**, Shanass, P.R., Vijith, V., Sajeev, R., Vethamony, P., 2022. Climatology and variability of wind speeds along the southwest coast of India derived from CFSR winds, *International Journal of Climatology* 42,8738-8754. <https://doi.org/10.1002/joc.7767>.
8. Rajendran, S., **Aboobacker V.M.**, Vashist, O.S., Al Khayat J.A., Rangel-Buitrago, N., Al-Kuwari, H.A., Sadooni, F.N., Vethamony, P., 2022: History of a disaster: A baseline assessment of the Wakashio oil spill on the coast of Mauritius, Indian Ocean, *Marine Pollution Bulletin*, 175, 113330. <https://doi.org/10.1016/j.marpolbul.2022.113330>.
9. Elnaiem, A.E., Ebrahim M.A.S. Al-Ansari, Yigiterhan, O., **Aboobacker, V.M.**, Vethamony, P., 2022: Spatial variability of summer hydrography in the central Arabian Gulf, *Oceanologia*, 64, 75-87. <https://doi.org/10.1016/j.oceano.2021.09.003>.
10. **Aboobacker, V.M.**, Samiksha, S.V., Veerasingam, S., Ibrahim M.A.S. Al-Ansari, Vethamony, P., 2021: Role of shamal and easterly winds on the wave characteristics off Qatar, central Arabian Gulf, *Ocean Engineering*, 236, 109457. <https://doi.org/10.1016/j.oceaneng.2021.109457>.
11. Al-Khayat, J.A., Veerasingam, S., **Aboobacker, V.M.**, Vethamony, P., 2021: Hitchhiking of encrusting organisms on floating marine debris along the west coast of Qatar, Arabian/Persian Gulf, *Science of The Total Environment*, 776, 145985. <https://doi.org/10.1016/j.scitotenv.2021.145985>.
12. **Aboobacker, V.M.**, Shanass, P.R., Veerasingam, S., Ibrahim M.A.S. Al-Ansari, Fadhil N Sadooni, Vethamony, P., 2021: Long-term assessment of onshore and offshore wind energy potentials of Qatar, *Energies*, 14, 1178. <https://doi.org/10.3390/en14041178>.
13. Rakib, M.F., Al-Ansari, E.M.A.S., Husrevoglu, S., Yigiterhan, O., Al-Maslamani, I.A., **Aboobacker, V.M.**, Vethamony, P., 2021: Observed Variability in Physical and Biogeochemical Parameters in the Central Arabian Gulf, *Oceanologia*, 63: 227-237. <https://doi.org/10.1016/j.oceano.2020.12.003>.
14. Veerasingam, S., Vethamony, P., **Aboobacker, V.M.**, Giralde, A.E., Samah D., Al-Khayat, J.A., 2021: Factors influencing the vertical distribution of microplastics in the beach sediments around the Ras Rakan Island, Qatar, *Environmental Science and Pollution Research*. <https://doi.org/10.1007/s11356-020-12100-4>.
15. **Aboobacker, V.M.**, Shanass, P.R., Ibrahim M.A.S. Al-Ansari, Sanil Kumar V., Vethamony, P., 2021: The maxima in northerly wind speeds and wave heights over the Arabian Sea, the Arabian/Persian Gulf and the Red Sea derived from 40 years of ERA5 data, *Climate Dynamics*, 56: 1037-1052. <https://doi.org/10.1007/s00382-020-05518-6>.
16. Veerasingam S, M. Ranjani, R., Venkatachalapath, Andrei Bagaev, Vladimir Mukhanov, Daria Litvinyuk, M. Mugilarasan, K. Gurumoorthi, L. Gaganathan, **V.M Aboobacker**, P. Vethamony, 2021: Contributions of Fourier Transform Infrared spectroscopy in microplastic pollution research: A review, *Critical Reviews in Environmental Science and Technology*, 50 (22), 63p. <https://doi.org/10.1080/10643389.2020.1807450>.
17. Veerasingam, S., Jassim A. Al-Khayat, Haseeba, K.P., **Aboobacker, V.M.**, Shafeeq, H., Vethamony, P., 2020: Spatial distribution, structural characterization and weathering of tarmats along the west coast of Qatar, *Marine Pollution Bulletin*, 159: 111486. <https://doi.org/10.1016/j.marpolbul.2020.111486>.
18. Veerasingam, S., Jassim A. Al-Khayat, **Aboobacker, V.M.**, Shafeeq, H., Vethamony, P., 2020: Sources, spatial distribution and characteristics of marine litter along the west coast of Qatar, *Marine Pollution Bulletin*, 159: 111478. <https://doi.org/10.1016/j.marpolbul.2020.111478>.
19. Shamji, V.R., **Aboobacker, V.M.**, Vineesh, T.C., 2020: Extreme value analysis of wave climate around Farasan Islands, southern Red Sea, *Ocean Engineering*, 207: 107395.
20. Anoop, T.R., Shanass, P.R., **Aboobacker, V.M.**, Sanil Kumar V., Sheela Nair, L., Prasad, R., Reji, S., 2020: On the generation and propagation of Makran swells in the Arabian Sea, *International Journal of Climatology*, 40 (1), 585-593.
21. **Aboobacker, V.M.**, Shanass, P.R., 2018: The climatology of shamals in the Arabian Sea – Part 1: Surface winds, *International Journal of Climatology*, 38: 4405 – 4416.
22. **Aboobacker, V.M.**, Shanass, P.R., 2018: The climatology of shamals in the Arabian Sea – Part 2: Surface waves, *International Journal of Climatology*, 38: 4417 – 4430.

23. Alaa M.A. Albarakaati, **Aboobacker, V.M.**, 2018: Wave transformation in the nearshore waters of Jeddah, west coast of Saudi Arabia, *Ocean Engineering*, 163: 599 – 608.
24. P.R. Shanas, **Aboobacker, V.M.**, Khalid M. Zubier, Alaa M.A. Albarakaati, 2018: Spectral wave characteristics along the central coast of eastern Red Sea, *Arabian Journal of Geosciences*, 11:90.
25. P.R. Shanas, **Aboobacker, V.M.**, Alaa M.A. Albarakaati, Khalid M. Zubier, 2017: Climate driven variability of wind-waves in the Red Sea, *Ocean Modelling*, 119: 105 – 107.
26. P.R. Shanas, **Aboobacker, V.M.**, Alaa M.A. Albarakaati, Khalid M. Zubier, 2017: Superimposed wind-waves in the Red Sea, *Ocean Engineering*, 138: 9 – 22.
27. **Aboobacker, V.M.**, P.R. Shanas, M.A. Alsaafani, Alaa M.A. Albarakaati, 2017: Wave energy resource assessment for Red Sea, *Renewable Energy*, 114, 46-58.
28. **Aboobacker, V.M.**, 2017: Wave energy resource assessment for eastern Bay of Bengal and Malacca Strait, *Renewable Energy*, 114, 72-84.
29. **Aboobacker, V.M.**, M. Seemanth, S.V. Samiksha, K. Sudheesh, K. Jyoti and P. Vethamony., 2014: Sea breeze-induced wind sea growth in the central west coast of India, *Ocean Engineering*, 84(1), 20-28.
30. Vinod Kumar, K., M. Seemanth, P. Vethamony and **V.M. Aboobacker**, 2014: On the spatial structure and time evolution of Shamal winds over the Arabian Sea – a case study through numerical modelling, *International Journal of Climatology*, 34(6), 2122-2128.
31. Grinson George, Dattesh .V. Desai, Chetan A. Gaonkar., **V. M. Aboobacker**, P. Vethamony and Arga Chandrashekar Anil, 2013: Barnacle larval transport in the Mandovi-Zuari estuarine system, central west coast of India, *Journal of Oceanography*, 69, 452-466.
32. **Aboobacker, V.M.**, P. Vethamony, S.V. Samiksha, R. Rashmi and K. Jyoti, 2013: Wave transformation and attenuation along the west coast of India: measurements and numerical simulations, *Coastal Engineering Journal*, 55, 1-21.
33. Rashmi, R., **V.M. Aboobacker**, P. Vethamony and M.P. John, 2013: Co-existence of wind seas and swells along the west coast of India during non-monsoon season, *Ocean Science*, 9, 281-292.
34. Vethamony, P., R. Rashmi, S.V. Samiksha, **V.M. Aboobacker**, 2013: Recent studies on wind seas and swells in the Indian Ocean: a review, *International Journal of Ocean and Climate Systems*, 4, 65-75.
35. Samiksha, S.V., P. Vethamony, **Aboobacker, V.M.** and R. Rashmi, 2012: Propagation of Atlantic Ocean swells in the north Indian Ocean: a case study, *Natural Hazards and Earth System Sciences*, 12, 3605-3615.
36. Vinod Kumar K., **V.M. Aboobacker**, P.P. Saheed and P. Vethamony, 2012: Coastal circulation along the central west coast of India during cyclone Phyan: measurements and numerical simulations, *Natural Hazards*, 64, 259-271.
37. Chetan A. Gaonkar, S.V. Samiksha, Grinson George, **V.M. Aboobacker**, P. Vethamony and A.C. Anil, 2012: Numerical simulations of barnacle larval dispersion coupled with field observations on larval abundance, settlement and recruitment in a tropical monsoon influenced coastal marine environment, *Journal of Marine Systems*, 94, 218-231.
38. **Aboobacker, V.M.**, R. Rashmi, P. Vethamony and H.B. Menon, 2011: On the dominance of pre-existing swells over wind seas along the west coast of India, *Continental Shelf Research*, 31, 1701-1712.
39. Vethamony, P., **Aboobacker, V.M.**, Menon, H.B., Ashok Kumar, K. and Cavaleri, L., 2011: Superimposition of wind seas on pre-existing swells off Goa coast, *Journal of Marine Systems*, 87, 47-54.
40. **Aboobacker, V.M.**, Vethamony, P. and Rashmi, R., 2011: "Shamal" swells in the Arabian Sea and their influence along the west coast of India, *Geophysical Research Letters*, 38, L03608, doi:10.1029/2010GL045736.
41. **Aboobacker, V.M.**, Vethamony, P., Sudheesh, K., and Rupali S.P., 2009: Spectral characteristics of the nearshore waves off Paradip coast, India during monsoon and extreme events, *Natural Hazards*, 49(2), 311-323.
42. Vethamony, P., **Aboobacker V.M.**, Sudheesh, K., Babu, M.T., and Ashok Kumar K., 2009: Demarcation of inland vessels' limit off Mormugao Port region, India: a pilot study for the safety of inland vessels using wave modeling, *Natural Hazards*, 49(2), 411- 420.



## BOOKS / BOOK CHAPTERS

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1. **Aboobacker, V.M.**, Wave characteristics along the Indian coasts: Wind waves. LAP LAMBERT Academic Publishing (August 29, 2016). <https://www.amazon.com/Wave-characteristics-along-Indian-coasts/dp/3659884111>.
2. Veerasingam, S., Al-Khayat, J., Aboobacker, V.M., Vethamony, P., 2023. Microplastics in the marine environment of Arabian/Persian Gulf: abundance, characterization, ecotoxicological effect and implications. Elsevier (Accepted in Elsevier).

## SUMMARY OF PUBLICATIONS

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- Total number of peer-reviewed papers: **42**
- Total impact factor from peer-reviewed papers: **180**
- Total number of google citations: **1237**
- h-index: **20**
- i10-index: **33**

## CONFERENCES (PROCEEDINGS/POSTERS/ORAL PRESENTATIONS)

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1. Aboobacker, V.M., Afnan Mussa, Ebrahim M.A.S. Al-Ansari, P. Vethamony. 2023: Climatological features of surface currents off Doha, central Arabian Gulf. 54th International Liege Colloquium on Ocean Dynamics, 8-12 May 2023, University of Liege, Belgium.
2. Jawaher Al-Azba, V.M. Aboobacker, Jassim Al-Khayat, P. Vethamony, 2022: Physico-chemical characteristics of the Doha Bay, *Qatar University Annual Research Forum and Exhibition (QUARFE), 03-04 October 2022, Qatar University.*
3. Aboobacker, V.M., Ebrahim M.A.S. Al-Ansari, Yigiterhan O., Al-Maslamani I., Vethamony, P., 2021: Variability of Physical and Biogeochemical parameters in the Exclusive Economic Zone of Qatar, *Proceedings of the Qatar University Annual Research Forum and Exhibition (QUARFE), 20 October 2021, Qatar University.* <https://doi.org/10.29117/quarfe.2021.0030>.
4. Aboobacker, V.M., Ebrahim M.A.S. Al-Ansari, Vethamony, P., 2021: Surface waves generated by shamal and easterly winds off Qatar, *Proceedings of the Qatar University Annual Research Forum and Exhibition (QUARFE), 20 October 2021, Qatar University.* <https://doi.org/10.29117/quarfe.2021.0037>.
5. Al-Khayat, J., Aboobacker, V.M., Vethamony, P., 2021: Assemblage of Encrusting Organisms on Floating Marine Debris along the West Coast of Qatar, *Proceedings of the Qatar University Annual Research Forum and Exhibition (QUARFE), 20 October 2021, Qatar University.* <https://doi.org/10.29117/quarfe.2021.0029>.
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8. Aboobacker, V.M., Ebrahim M.A.S. Al-Ansari, Shanas, P.R., Veerasingam, S., Vethamony, P., 2020: Wind energy potentials along the onshore and offshore Qatar, *Proceedings of the Qatar University Annual Research Forum and Exhibition (QUARFE), 28 October 2020, Qatar University.* <https://doi.org/10.29117/quarfe.2020.0018>.
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12. D.K. Ly., V.M. Aboobacker, M.L. Sim.Abundo, N. Srikanth, and P. Tkalich, 2014: Wave energy resource assessment for South East Asia, *Proceedings of the 5th International Conference on Sustainable Energy and Environment (SEE 2014): Science, Technology and Innovation for ASEAN Green Growth 19-21 November 2014, Bangkok, Thailand.*
13. Aboobacker, V.M., P. Tkalich, S.V. Samiksha and P. Vethamony., 2014: Swell propagation in the Malacca Strait. *WISE (Waves In Shallow water Environment) Meeting – 2014, 08-12 June 2014, ECMWF, Reading, United Kingdom.*
14. Vinod, K.K., V.M. Aboobacker, P. Tkalich and P. Vethamony, 2013: Atmospheric characteristics and wind waves due to typhoon Vamei. *Asian Congress on Citizen and Environment Safety & Security, 5 - 7 Jun 2013, Town Plaza, U-Town, National University of Singapore, Singapore.*
15. Aboobacker, V.M., P. Tkalich, K.K. Vinod and P. Vethamony, 2013: Wind-waves generated by typhoon Vamei in the southern South China Sea. *EGU-2013, 7-12 Apr 2013, Austria Centre, Vienna, Austria.*
16. Aboobacker, V.M., D. Pavlo, Z. Mark and P. Tkalich, 2013: Projections of wind-waves in the South China Sea for the 21<sup>st</sup> century. *EGU-2013, 7-12 Apr 2013, Austria Centre, Vienna, Austria.*
17. Rashmi, R., P. Vethamony and V. M. Aboobacker, 2012: Air-sea interactions during tropical cyclone in the Indian Ocean, *EGU-2012, 22-27 April 2012, Austria Centre, Vienna, Austria.*
18. Samiksha, S.V., P. Vethamony, V.M. Aboobacker and R. Rashmi, 2012: Role of south Indian Ocean swells in modulating the north Indian Ocean wave climate through modelling and remote sensing, *EGU-2012, 22-27 April 2012, Austria Centre, Vienna, Austria.*
19. Vinod, K.K., M. Seemanth, P. Vethamony and V M Aboobacker, P Tkalich and P Vethamony, 2012: Extension of shamal winds over the Arabian Sea: numerical modelling using WRF. *AOGS-2012, 13-17 Aug 2012, Resorts World Convention Centre, Singapore.*
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21. Vethamony, P., K.K. Vinod, V.M. Aboobacker and P.P. Saheed, 2011: Coastal circulation and surges along the central west coast of India during cyclone Phyan. *AOGS-2011, 8-12 Aug 2011, Taipei International Convention Center, Taiwan.*
22. Rashmi. R., P. Vethamony and V. M. Aboobacker, 2011: Upward momentum transfer from swells during extreme events. *AOGS 2011, 8- 12 August 2011, Taipei International Convention Center, Taiwan.*
23. Jyoti, K., S. JayaKumar, V.M. Aboobacker and P. Vethamony, 2011: Wave climate off Dwarka, west coast of India from wave hindcast. *AOGS 2011, 8- 12 August 2011, Taipei International Convention Center, Taiwan.*
24. Aboobacker, V.M., P. Vethamony and R. Rashmi, 2011: Generation and propagation of Shamal swells in the Arabian Sea. *AOGS 2011, 8- 12 August 2011, Taipei International Convention Center, Taiwan.*
25. John, M.P., V. Samiksha, R. Rashmi, V. M. Aboobacker and P. Vethamony, 2010: Influence of Southern Indian ocean swells on the wave characteristics off Goa, *Proceedings of the National Conference on coastal processes, resources and management, 05-07 Feb 2010, Thiruvananthapuram, India.*
26. Rashmi. R, V.M. Aboobacker, M.P. John and P. Vethamony, 2010 : Dominance of wind seas over swells along the West coast of India during fair weather season, *Proceedings of National Conference on coastal processes, resources and management, 05-07 Feb 2010, Thiruvananthapuram, India.*
27. Vethamony, P., V.M. Aboobacker, H.B. Menon and P.S. Pednekar, 2007: Interaction of “seas” generated by sea breeze superimposed on pre-existing swells: a case study. *WISE 2007, Australia.*
28. Aboobacker, V.M., P. Vethamony and K. Sudheesh, 2005: Wave characteristics off Paradip during monsoons as evident from measurements and modelling. *Proceedings of the National workshop on coastal processes, NPOL, Kochi, India, 6-7, October 2005.*

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## TECHNICAL REPORTS

- Wind wave characteristics and their impacts along the south-eastern coast of Red Sea, report submitted to Deanship of Scientific Research, King Abdulaziz Univesrity, Jeddah. Project No. G-144-980-1438/2018.
- Tidal analysis and forecasting in Red Sea, report submitted to Deanship of Scientific Research, King Abdulaziz Univesrity, Jeddah. Project No. G-271-980-1437/2017.
- Nearshore wave transformation off Jeddah, west coast of Saudi Arabia, report submitted to Deanship of Scientific Research, King Abdulaziz Univesrity, Jeddah. Project No. G-168-150-1437/2017.
- Beach Erosion and Mitigation Studies along Changi Coast, Singapore. Project No. CEM-NSRCC-01, National Service Resort & Country Club, Singapore, 2015.
- Hydrodynamics Study at Changi Naval Base, Singapore. Project No. TMSI-PR-DSTAHydrodynamicStudy-201407, Defence Science & Technology Agency (DSTA), Singapore, 2014.
- Impact of Forest City land reclamation in Johor Strait, Singapore. Preliminary investigations, Public Utilities Board (PUB), Singapore, 2014.
- Impact of KWRP/KNF Effluent Discharge on Water Quality in the West Straits of Johor, Desktop Study Report, Public Utilities Board (PUB), Singapore, 2014.
- Modelling and Impact Assessment of Maximum Desalination Capacity along Singapore's Northern Shores, Progress Report, Public Utilities Board (PUB), Singapore, 2014.
- Environmental Impact Assessment of Singapore's Future Desalination Plants. Project No. TMSI-WQNM-DP1-FR-032014, Public Utilities Board (PUB), Singapore, 2013.
- Coastal Inundation Risk Map Study For Singapore - Overall Executive Summary, Project No. TMSI-PR-BCARiskMapStudy-OES-201312, Building and Construction Authority, Singapore, 2013.
- Coastal Inundation Risk Map Study For Singapore, Volume 2 – Sea level and coastal hydrodynamics, Part 1 – Data analysis and statistical downscaling, TMSI-PR-BCARiskMapStudy-Vol2-P1-201312, Building and Construction Authority, Singapore, 2013.
- Coastal Inundation Risk Map Study For Singapore, Volume 2 – Sea level and coastal hydrodynamics, Part 2 – Dynamical downscaling of wind waves, TMSI-PR-BCARiskMapStudy-Vol2-P2-201312, Building and Construction Authority, Singapore, 2013.
- Coastal Inundation Risk Map Study For Singapore, Volume 2 – Sea level and coastal hydrodynamics, Part 3 – Dynamical downscaling of ocean parameters (ROMS), TMSI-PR-BCARiskMapStudy-Vol2-P3-201312, Building and Construction Authority, Singapore, 2013.
- Coastal Inundation Risk Map Study For Singapore, Volume 2 – Sea level and coastal hydrodynamics, Part 3 – Dynamical downscaling of sea level extremes and storm surges, TMSI-PR-BCARiskMapStudy-Vol2-P4-201312, Building and Construction Authority, Singapore, 2013.
- Marine environmental Impact Assessment Studies for setting up of Coal based Saurashtra Super Thermal Power Plant and for the Construction of Captive Coal Jetty at Gojiness in Jamnagar, Gujarat. Report submitted to Universal Crescent Power Pvt Ltd., (UCPPL) Noida, India. Report No. NIO/SP-11/2011 (SSP 2293).
- Demarcation of inland vessel's limit (IVL) off Mormugao Port region including Panaji – a pilot study, draft report submitted to Directorate General of Shipping, Mumbai. Report No. NIO/SP-45/2007(SSP 1621).

#### **PROFESSIONAL TRAININGS ATTENDED**

Jan 2022	Cybercrime Prevention Training	Cyber Security Center, Qatar (online)
11-12 May 2021	Workshop: "Let's go further with the Copernicus Marine Data"	Copernicus Marine Service, EU. (online)
04 May 2021	MarineData4Asia workshop	Copernicus Marine Service, EU. (online)

13 Feb 2019	Training on "the basics of e-learning management system on Blackboard"	Deanship of e-Learning and Distance Education, King Abdulaziz University, Jeddah
12 Feb 2019	Training on "duties and administering tests on Blackboard"	Deanship of e-Learning and Distance Education, King Abdulaziz University, Jeddah
07 Feb 2019	Training on "Designing electronic tests"	Deanship of e-Learning and Distance Education, King Abdulaziz University, Jeddah
10-11 Dec 2017	Training on DHI models	Danish Hydraulic Insitute, Denmark (Dubai office)
06-10 Jun 2005	C-MMACS Course On "Mathematical Modelling and Computer Simulation"	CSIR Centre For Mathematical Modelling And Computer Simulation (C-MMACS), Bangalore
07-18 Feb 2005	Training on "Satellite Oceanography"	National Institute of Ocean Technology, Chennai
20-21 Mar 2004	Training on GNU/LINUX	Goa Engineering College, Goa

## SERVICES

<b>University</b>	<ul style="list-style-type: none"> <li>• Attended the QUARFE on the topic "Research, Innovation and Sustainability: Engaging Nations through Sports" at Qatar University. 03-04 October 2022.</li> <li>• Acted as Graduate Program reviewer for a proposed course at King Abdulaziz University, Jeddah, KSA. Dec 2021-Jan 2022.</li> <li>• Participated the Workshop on the "blue economy in the Arabian Gulf and the Red Sea" as a Guest Speaker conducted by King Fahd University of Petroleum &amp; Minerals (KFUPM), Saudi Arabia, 29-30 November 2021.</li> <li>• Field program co-ordinator for physical oceanographic data collection in the east coast of Qatar for ESC since 2019.</li> <li>• Attended the QUARFE on the topic "Building Reselience at Universities: Role of Innovation and Entrepreneurship" at Qatar University. 20/10/2021.</li> <li>• Attended the NPRP14S ORS Exchange Sessions conducted by the Pre-Award Team of Qatar University. 14-15 April 2021.</li> <li>• Attended Volunteer and Community Service Conference 2021 conducted by Qatar University. 04-05 April 2021.</li> <li>• Consulations for Milaha regarding a proposal for desktop synthesis study with Qatar Gas and related projects. 08/03/2021 – present.</li> <li>• Attended Information Session for the 14th Cycle of NPRP-Standard and Two New Related Awards. 04/03/2021.</li> <li>• Attended QU Press Platform Launch Event. 25/02/2021.</li> <li>• Participated in the Meeting with Xylem. They introduced about their new oceanographic equipment. 17/02/2021.</li> <li>• Attended UNESCO-Chair Meetings conducted to discuss the update on the Arabian Gulf Proposal under UNESCO Chair. The participants are from QU and Kuwait University. 26/01/2021 and 08/02/2021.</li> <li>• Prepared the contents for the ESC website modifiatons under the Marine Science Cluster. 20-25 January 2021.</li> <li>• Attended the QUARFE lecture on the topic "University of the Future: Re-imagining Research and Higher Education" at Qatar University. 28/10/2020.</li> <li>• Participated the QU Graduation Day Ceremony. 27/09/2020.</li> <li>• Attended the Third Episode of Research Wednesdays Meeting: A session under UNESCO chair, in which the participants were from QU (Prof. Vethamony; Dr. Jassim Al-Khayat), Kuwait University (Dr. Fahad Al-Senafi) and Sultan Qaboos University (Dr. Hussein Al-Masroori). The title of the session was "The knowns and expected unknowns of the Arabian Gulf". 20/01/2020.</li> </ul>
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- Participated in oceanographic data collection off Fuwairit, east coast of Qatar. Deployed and retrieved the oceanographic equipment RCM and ADCP. 29/10/2019 and 26/11/2019.
- Presented a talk on “Arabian Gulf circulation and its effect on the coastal environment of Qatar” conducted as part of the ESC Internal Seminars. 24/10/2019.
- Thesis internal evaluation committee member, Department of Marine Physics, King Abdulaziz University, Jeddah. 09/2018 – 12/2018.
- Committee member for Course Action Plan, Department of Marine Physics, King Abdulaziz University, Jeddah. 09/2016 – 05/2017.
- Coomittee member for the preparation of Annual report, Department of Marine Physics, King Abdulaziz University, Jeddah. 09/2017 – 10/2017.

## Professional

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- Reviewed around 35 manucripts for over 20 international journals.
  - Attended the Liege International Conference on Ocean Dynamics, 8-12 May 2023, Belgium.
  - Attended the 7th OSI Conference - OSICON, the national conference arranged by Ocean Society of India (OSI). 12-14 August 2021.
  - Attended an international webinar on the topic "Wave resource characterization at regional and nearshore scales using a multi-resolution modeling approach" by Prof. Zhaoqing Yang, Pacific Northwest National Laboratory (PNNL) conducted by International Integrated Wave Energy Research Group (IIWER). 30/04/2021.
  - Attended the RSRC\_Ocean Carbon and Biogeochemistry in Tropical Seas Conference (online) conducted by King Abdullah University of Science & Technology, Thuwal, Saudi Arabia. 06-08 April 2021.
  - Attended the conference: Materials of the Future: Smart Applications in Science and Engineering at Qatar University. 28-31 March 2021.
  - Attended IOC-UNESCO/MSP Global Seminar on Marine Spatial Planning. 11/02/2021.
  - Attended the "Regional Meeting on MSP and Blue Economy: PERSGA region" conducted online jointly by Intergovernmental Oceanographic Commission (IOC) and UNESCO. 16/11/2020.
  - Attended a seminar conducted by UNESCO on the topic "Environmental Stewardship in Qatar: Working together for greater impact" through WebEx. 20/10/2020.
  - Attended an online workshop conducted by CELT, Qatar University on the topic "Elsevier Workshop - Scopus Database". 19/10/2020.
  - Attended the seminar conducted on the topic "The Joy of Discovery" delivered by Dr. Feringa. This is part of the Al Maerifa Public Seminar Series organized by Texas A&M University. 01/10/2020.

## Community

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- ✓ Served as Evaluator for the Qatar Children’s Science Congress -2022
  - ✓ Delivered a World Envionment Day Talk (invited) on the topic “Climate Change Implications in the Arabian Gulf” at North Oil Company, Qatar on 15 June 2022.
  - ✓ Attended Cybercrime Awareness Training on 25-26 December 2021 conducted by the State of Qatar.
  - ✓ Served as Evaluator for the Qatar Children’s Science Congress -2021.
  - ✓ Attended the sessions as part of the Birth anniversary of Dr. Vikram Sarabhai celebrations conducted by the Science India Forum, Qatar. 12/08/2021.
  - ✓ Inaugurated of Shastharangam Club and delivered a talk on "Changing Environment: Science and Life" to the school students of Government Higher Secondary School, Chavara, Kerala, India. 30/07/2021.
  - ✓ Attended the Sub-regional Panel Discussion about the Launch of the United Nation World Water Development Report 2021, under the theme "Valuing Water", organized by Qatar National Commission of Education, Culture and Science in cooperation with UNESCO office for the GCC & Yemen and Qatar University. 22/04/2021.

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- ✓ Given a talk on Orientation program in Oceanography for Junior students (Grade VI to VIII) as part of the Shastra Pratibha Contest (SPC) level-2 State Level Camp by Science India Forum, Qatar (SIF,Q). 26/03/2021.
  - ✓ Given a seminar on Oceanographic Research and Career Guidance was given along with interactive session, at Sophia College, Mumbai, India. 27/02/2021.
  - ✓ Attended the QN Environment Day program: "Environment-friendly-solutions: Green Technology". 25/02/2021.
  - ✓ Given a talk on an interactive session on "Academic Research & Career Opportunities in Oceanography" conducted by an educational organization Edify Talent, India. 06/02/2020.
  - ✓ Member of Global Indian Scientists and Technocrats Forum (GIST) FORUM. 26/03/2021 onwards.
  - ✓ Member of Science India Forum, Qatar (SIF,Q) since 2020.
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