Curriculum Vitae

MM Ali, PhD
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Professional Preparation:

1983: Ph. D., Faculty of Science (Meteorology), Andhra University
1976: M. Sc (Tech.), Faculty of Science (Meteorology & Oceanography), Andhra University
1979: Post-M. Sc. (Dip.), Faculty of Science (Environmental Sciences), Andhra University
1973: B. Sc, Faculty of Science (Mathematics, Physics and Chemistry), Andhra University

Professional Activities:

- **Courtesy Senior Scientis, Center for Ocean-Atmospheric Prediction Studies,** Florida State University, USA: 24 April 2015- to present
- **Dr. Brahmaprakash Professor: National Remote Sensing Centre, ISRO:** 17 December 2014 to 16 December 2014.
- **Group Director, Atmosphere and Ocean Sciences Group, National Remote Sensing Centre, ISRO:** 1 March 2012 to 30 Nov. 2012.
- **Head, Oceanography Division, National Remote Sensing Centre, ISRO:** January 2003 to 29 February 2012.
- **Project Manager, MSMR Validation, Space Applications Centre, ISRO:** Dec 1998 – Mar 2003.
- **Research Scientist, Space Applications Centre, ISRO:** Sep 1983 – Dec 1998.

Research Interests:

Remote Sensing with special reference to Satellite Altimetry and Scatterometry, Ocean eddies, Mixed layer dynamics, Ocean processes for strategic applications with special reference to temperature and sound speed profiles and sonic layer depth, Ocean atmosphere interaction with specisl reference to impact of ocean heat content and ocan mean temperature on cyclones and mosoons, Wind stress at the ocean surface from altimeters and scatterometers, Equatorial Indian Ocean dynamics and thermodynamics, Atmospheric temperature and humidity profiles, Atmospheric CO_2 monitoring and Artificial Nueral Network applications.

Field Experience:

Planning, implementing and participating in ship cruises

Academic Involvements:

Teaching Experience:

- Adjunct Professor, Indian Institute of Technology, Bhubaneswar, 2014- to present.
- Visiting faculty of Atmospheric Sciences, Hyderabad Central University, 2012- to present.
- Visiting Honourary Professor in Physical Oceanography, Gujarat University, 1992-1994
- Visiting Professor in Physical Oceanography, Bhavnagar University, 1988-1990
- Faculty member of various training programs of National Remote Sensing Centre, Space Applications Centre, Integrated Coastal and Marine Area Management course at Integrated Coastal and Marine Area Management, and Indian Navy.

Research Guidence:

- Research supervisor at Andhra University, University of Pune, Osmania University and Jawaharlal Nehru Technological Institute-H.
- Supervised 7 PhD, 4 MPhil and 1 MS Theses.

Other:

- Reviewer for 9 refereed journals.

Publications:

Atlases	: 3 + 1
In Journals	: 66+3
Articles in books	: 8
International Symp. Proc.	: 8
Indian Symp. Proc.	: 5
International Reports/Mag.	: 3
Indian Reports/Mag.	: 3

I Atlases (3+1)

1. PV Nagamani, T Venugopal, **MM Ali,** and Gustavo Goni (2012). An atlas of the Tropical cyclone heat potential of the north Indian Ocean, National Remote Sensign Centre (ISRO). Digital copy available at http://www.nrsc.gov.in/Atlas/TCHP/index.html

2. V.V Gopalakirhsna, **M. M**, **Ali,** N, Araligidad, S. Shenoy, C.K. Shum, and Y. Yi (2003). An atlas of the XBT thermal structures and TOPEX/POSEIDON sea surface heights in the North Indian Ocean. National Institute of Oceanography, Dona Paula, Goa -403004 (India), Special Publication, NIO-NRSA-SP-01-03, 125p.

3. **M. M. Ali, R.** Sharma. and R. Cheney (1998). An atlas of the North Indian Ocean eddies from TOPEX altimeter derived sea surface heights, Special Publication, ISRO-SAC-SP-69-98, 47 p.
4. Neetu Chako, D. Dutta, **MM Ali** (2014). An atlas of the ocean heat content in the North Indian Ocean (in its final form).

Peer Reviewed Papers (66+3 under review)

Under Review:

PV Nagamani, **MM Ali**, GJ Goni, TVS Uday Bhaskar, Jay Mcreary, Robbert Weller, VV Gopalakrishna and JC Puzzello, Heat content of the Arabian Sea Mini Warm Pool is increasing. Atmos. Sci, Lett.

MM Ali, Suchandra A. Bhowmick, Rashmi Sharma, Aditya Chaudhury, John C. Pessullo, Mark Bourassa, IV Ramana and K. Niharika. A Neural Network Model Funtion for SARAL-Altika Winds, IEEE, GRSL

MM Ali, Mark A. Bourssa, Suchandra A. Bhowmick, Rashmi Sharma and K. Niharika. Wind stress at the ocean surface from AltiKa measurements, IEEE, JSTARS

Published:

1. **M. M. Ali**, P. V. Nagamani, Neerja Sharma, R. T. Venu Gopal, M. Rajeevan, G. J. Goni and Mark A. Bourassa (2015). Relationship between ocean mean temperatures and Indian summer monsoon rainfall. DOI: DOI: 10.1002/asl2.576, (published on line).

2. P. S. V. Jagadeesh, M. Suresh Kumar, and **M. M. Ali** (2015). Estimation of Heat Content and Mean Temperature of Different Ocean Layers, IEEE-JSTARS. DOI: 10.1109/JSTARS.2015.2403877, (published online).

3. Neethu Chacko, D . Dutta, **M M Ali**, JR Sharma and VK Dadhwal (2015). Near real time availability of ocean heat content over north Indian Ocean. IEEE, GRSL DOI: 10.1109/LGRS.2014.2375196, vol. 12, pp 1033-1036.

4. P. Mahesh, Neerja Sharma,VK Dadhwal, PVN Rao, BV Apparao, AK Ghosh, K. Mallikarjun and **MM Ali** (2014). Impact of Land-Sea Breeze and Rainfall on CO2

Variations at a Coastal Station, J Earth Sci Clim Change 5: 201. doi:10.4172/2157-7617.1000201.

5. Neerja Shartma and **MM Ali**, (2014). Role of ocean heat content for cyclone studies, Oceanography (open access), vol. 2, Issue 2, http://dx.doi.org/10.4172/2332-2632.1000124.

6. P. Sinha, U.C. Mohanty and **M.M. Ali** (2014). Role of Sea Surface Temperature in Simulation of Arabian Sea Cyclone, pp 337-351. In Monitoring and Prediction of Tropical Cyclones in the Indian Ocean and Climate Change (Springer Pub),

7. Neerja Sharma, V.K. Dadhwal, Y. Kant, P. Mahesh, K. Mallikarjun, Harish Gadavi, Anand Sharma and **M.M. Ali** (2014). Atmospheric CO_2 Variations in Two Contrasting Environmental Sites Over India, Air, Soil and Water Research :7, 61–68 doi:10.4137/ASWR.S13987.

8. P. Sujatha, Neerja Sharma, **MM Ali** and CV Naidu (2014). Variability of Tropical Tropopause Temperature Associated with Convective Activity in Troposphere, , Int. J. Engg. and Innovative Technology, vol. 3 (10), pp 219-224.

9. P. Chand, MV Rao, IV Ramana, **MM Ali,** J Patoux, MA Bourassa (2014). Estimation of sea level pressure fields during cyclone Nilam from Oceansat-2 scatterometer winds, Atmospheric Science Letters 15(1), 65-71.

10. Neerja Sharma, and **M. M. Ali** (2013). An approach to predict cyclogenesis using radio occultation observations, Int. J. Engg. and Innovative Technology, Vol. 3, pp 364-367.

11. **M. M. Ali**, Tina Kashyap and PV Nagamani (2013). Use of Sea Surface Temperature for Cyclone Intensity Prediction Needs a Relook, EOS, Vol. 94, pp 117.

12. Neerja Sharma, **MM Ali,** John A. Knaff and Purna Chand (2013). A soft-computing cyclone intensity prediction scheme for the Western North Pacific Ocean, Atmospheric Science Letters, Vol. 14, pp 187-192, DOI:10.1002/asl2.438.

13. M. Rajeevan, J. Srinivasan, K. Niranjan Kumar, C. Gnanaseelan3 and **M. M. Ali** (2013). On the epochal variation of intensity of tropical cyclones in the Arabian Sea, Atmospheric Science Letters, 14 (4), 249–255, DOI**:** 10.1002/asl2.447

14. **M. M. Ali**, G. S. Bhat, David G. Long, S. Bharadwaj, Mark A. Bourassa (2013). Estimating wind stress at the Ocean surface from scatterometer observations. IEEE GRSL, Vol. 10, pp 1129-1132, DOI: 10.1109/LGRS.2012.2231937 .

15. Neerja Sharma, RK. Nayak, VK Dadhwal, Y. Kant and **MM Ali** (2013). Intra-Seasonal and Diurnal Atmospheric CO_2 Patterns at Dehradun, India during 2009, Atmosphere, water and soil research: vol. 6, pp 37–45; doi: 10.4137/ASWR.S10590

16. **M. M. Ali**, D. Swain, Tina Kashyap, J. P. McCreary and P. V. Nagamani (2013). Relationship between Cyclone Intensities and Sea Surface Temperature in the

Tropical Indian Ocean, IEEE Geoscience and Rem. Sens. Letters. Vol. 10, pp 841 – 844, DOI: 10.1109/LGRS.2012.2226138 .

17. Neerja Sharma and **MM Ali** (2013). A Neural Network Approach to Improve the Vertical Resolution of Atmospheric Temperature Profiles from Geostationary Satellites, IEEE Geoscience and Remote Sensing Letters, Vol. 10, pp 34-37, DOI No. 10.1109/LGRS.2012.2191763 .

18. **M M Ali,** P S V Jagadeesh, I-I Lin, and Je-Yuan Hsu (2012). A Neural Network Approach to Estimate Tropical Cyclone Heat Potential in the Indian Ocean, IEEE Geoscience and Remote Sensing Letters, Vol. 9, pp 1114 – 1117, DOI No: 10.1109/LGRS.2012.2190491 **.**

19. P. V. Nagamani, **M. M. Ali**, G. J. Goni, P. N. Dinezio, J. C. Pezzullo, T. V. S. Uday Bhaskar, V. V. Gopalakrishna and N. Kurian (2012). Validation of atellite-derived tropical cyclone heat potential with *in situ* observations in the North Indian Ocean, *Remote Sensing Letters*, Vol. 3, N**o. 7,** 10 December 2012, 615–620.

20. Lin, I-I, G. J. Goni, J. Knaff, C. Forbes and **M. M. Ali** (2012). Ocean Heat Content for Tropical Cyclone Intensity Forecasting and Its Impact on Storm Surge, Natural Hazards, DOI: 10**.1007/s11069-012-0214-5, pp 1481-1500**.

21. P.N. Sridhar, **MM Ali,** MV Rao and P.V. Nagamani (2012). Role of photo-synthetically active radiation, a critical parameter for mass coral bleaching in the north Indian Ocean, Current Science, Vol. 102 (1).

22. PV Nagamani, P Chauhan, N. Sanwlani, **MM Ali** (2012). Artificial Neural Network (ANN) based inversion of benthic substrate bottom type and bathymetry in optically shallow waters-initial model results. J. of the Indian society of remote sensing, Vol 40 (1), pp 137-143.

23. **M. M. Ali,** Sarika Jain and Radhika Ramachandran (2011). Effect of temperature and salinity profiles on sound speed in the central Arabian Sea, Open Access Engineering Journal, Vol. 4, PP 71-76.

24. SR Nayak, VS Hegde, R. Shalini, AS Rajawat, **MM Ali,** B. Venkateshwarlu, amd IV Ramana, (2011). Application of Satellite Remote Sensing for Investigation of Suspended Sediment Dispersion Pattern in the Near Shore Region: A Case Study from the Central West Coast of India. Journal of Coastal Research, vol. 28, pp 399-406.

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26. GJ Goni,. M. DeMaria, J. Knaff , C. Sampson, I. Ginis, F. Bringas, A., Mavume, C. Lauer, I-I Lin, **M. M. Ali**, P. Sandery, S. Ramos-Buarque, K. Kang, A. Mehra, E. Chassignet, and G. Halliwell (2009). Applications of satellite-derived ocean measurements to tropical cyclone intensity forecasting, GODAE Special Issue Feature, Oceanography**,** Vol. 22, pp 190-197.

27. PN Sridhar, **MM Ali,** P. Vethamony, MT Babu, IV Ramana, and S. Jayakumar (2008). Seasonal Occurrence of Unique Sediment Plume in the Bay of Bengal, Earth Observations System, Vol. 89, pp 22-23.

28. PN Sridhar, IV Ramana, **MM Ali,** and B. Veeranarayana (2008). Understanding the suspended sediment dynamics in the coastal waters of the Bay of Bengal using high resolution, Current Science, Vol. 94, pp 1499-1502.

29. **MM Ali,** C. M. Kishtawal and Sarika Jain (2007). Predicting Cyclone Tracks in the North Indian Ocean: An Artificial Neural Network Approach, Geophysical Research Letters**,** Vol. 34, L04603, doi: 10.1029/2006GL028353.

30. **M. M Ali,.**, P.S.V. Jagadeesh and Sarika Jain (2007). Effects of Eddies on Bay of Bengal Cyclone Intensity, Earth Observations System, Vol. 88, ps 93, 95.

31. Sarika Jain, **MM Ali** and PN Sen (2007). Estimation of Sonic Layer Depth from Surface Parameters, Geophys. Res. Lett. Vol. 34, Doi:10.1029/2007GL030577.

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32. B Jena,., S. K. Sasmal, M. V. Rao and **M. M Ali** (2006). Inter-comparison of NOAA-AVHRR and IRS-P4 (MSMR) derived Sea Surface Temperatures: Possibility of blending the two observations, Int. J. Rem. Sens., Vol. 27, pp. 3123–3130.

33. Sarika Jain, and **M. M Ali** (2006). Estimation of sound speed profiles using artificial neural networks, IEEE Geoscience and Remote Sensing Letters, Vol. 3, No. 4, pp 467-470.

34. M. Mandal,.,U.C. Mohanty, P. Sinha and **M. M Ali** (2006). Impact of sea surface temperature in modulating movement and intensity of tropical cyclones, Natural Hazards, Netherlands, doi: 10.1007/s11069-006-9051-8.

35. D. Swain, **M. M. Ali,** and R. A. Weller (2006). Estimation of mixed layer depth from surface parameters, J. Mar. Res. Vol. 64, pp 745-758.

36. **M. M. Ali,** AKS Gopalan, KN Babu, Rashmi Sharma and R.A. Weller (2006). Upper ocean mixed layer depth in the north Indian Ocean using surface fluxes from a medium range weather forecast system, Ind. J. Mar. Sci. Vol. 35, pp 104-110.

37. KH Rao, A Smitha, and **M. M. Ali** (2006). A study on cyclone induced productivity in south western Bay of Bengal during November-December 2000 using MODIS (SST and Chlorophyll) data and altimeter sea surface height observations, Ind. J. Mar. Sci. Vol. 35, pp 153-160.

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39. Falguni Patadia, R. Sharma and **M. M. Ali** (2005). A comparison of the wind magnitudes obtained from the microwave radiometer onboard IRS-P4 Satellite and the ERS-2 scatterometer, Int. J. Rem. Sens. Vol. 26, pp 2479-2485.

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50. M. M. Ali (1997). A suggestion to include ten degree incidence angle measurements in the future scatterometer missions. Space Technology, vol. 17, pp 139-140.

51. R Sharma and **M.M**. **Ali,** (1996). Variation of mixed layer depth from Geosat altimeter observations. International Journal of Remote Sensing, Vol. 17, pp 1537-1546.

52. Mohan, M and **Ali, M. M**. (1995). Estimation of the wind stress induced offshore upwelling. Continental Shelf Research Vol. 15, pp 757-762.

53. C. Kalyani Devasena, S. P. Subrahmanyam, and **M. M**. **Ali,** (1995). Study of seasonal current variability in the Arabian Sea using Geosat altimeter data. International Journal of Remote Sensing, Vol. 16, pp 2691-2701, 1995.

54. M. M. **Ali,** and R. Sharma (1994). Estimation of mixed layer depth in the Equatorial Indian Ocean using Geosat altimeter data. Marine Geodesy, Vol. 17, pp 63-72.

55. C. M. Kishtwal, and **M. M**. **Ali,** (1994). Observations of interannual sea level oscillations in the Indian Ocean using Geosat altimeter data. Marine Geodesy, Vol. 17, pp 1-9.

56. M. M. **Ali,** (1993). Inference of the reversal of mixed layer zonal slope along the Equatorial Indian Ocean using Geosat altimeter data. International Journal of Remote Sensing., vol 14, pp 2043-2049.

57. R Sharma, and **M. M. Ali,** (1993). Obtaining sea surface height signals from ERS-1 altimeter data. Marine Geodesy, vol. 16, pp 241-251.

58. P. K Pal,. and **M. M**. **Ali,** (1992). Estimation of the azimuthal velocity and the elevation of an eddy from simulated altimeter data. International Journal of Remote Sensing Vol. 13, pp 2215-2222.

59. M. M. **Ali,** (1990). Estimation of the horizontal velocity of the Socotra eddy and some observations of sea surface thermal features using INSAT-1B. International Journal of Remote Sensing, Vol. 11, pp 41-47.

60. K. A. Dhoulath, **M. M**., **Ali,** P. S Desai,. and P. G. Kurup, (1990). Cyclonic heat potential over Bay of Bengal using satellite and in-situ data. Current Science, vol. 59, pp 790-793.

61. M. M. **Ali, (**1989). Role of absorbed solar radiation on Indian Ocean surface temperature: A case study for calm winds using satellite data. Remote Sensing of Environment, Vol. 30, pp 107-111.

62. M. S. Narayanan, P. K. Pal, P. C. Joshi, **M. M Ali,.** and B. Simon, (1989). Observations of mid-tropospheric circulation from water vapour radiances of polar orbiting satellites. Proceedings of Indian Academy of Sciences, Earth and Planet. Sci., Vol. 98, pp 247-254.

63. M. V. Kamaraju, **M.M**. **Ali,** and V. P. Subrahmanyam, (1988). Climatic water potential of the Godavari and the Krishna Deltaic Regions, Ind. Jour. Power and River Valley Development, Vol 38, Jan-Feb 1988, pp 17-20.

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