

Curriculum Vitae

M. RAVICHANDRAN

Secretary to Government of India
Ministry of Earth Sciences
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Father's Name: A. MUTHALAGU

Date of Birth: 18th May 1965

Profile

With over three decades of expertise in Earth Sciences, my career has been dedicated to understanding and advancing our knowledge of atmospheric, oceanographic, and polar phenomena. This journey of exploration, research, and leadership has not only shaped me professionally but has also allowed me to contribute significantly to the global scientific community. I look forward to furthering the frontiers of Earth Sciences and fostering collaborative endeavors for the betterment of our understanding of the world around us.

Academic Qualification (Bachelor's Degree onwards)

<u>S No</u>	<u>Degree</u>	<u>Subject</u>	<u>Class</u>	<u>Year</u>	<u>University</u>
1	B. Sc.	Physics (Main) Mathematics And Chemistry (Ancillary)	First Class with distinction	1985	Madurai Kamaraj University, Tamil Nadu
2	M. Sc.	Physics	First Class with distinction	1987	Alagappa University, Tamil Nadu
3	Ph.D.	Physics (Atmospheric Science)	-	1999	University of Pune, Maharashtra

Research Interest

- Atmospheric Physics & Ocean Dynamics
- Ocean Observing Systems (In-situ & Satellite)
- Ocean Modelling and Data Assimilation
- Polar Sciences

Research Experience (34 Years)

Office/ Institute/ Organ.	Post held	From	To	Nature of duties
Indian Institute of Tropical Meteorology (IITM), Pune (Ministry of Earth Sciences)	Senior Scientific Assistant & Junior Scientific Officer	23-12-1988	22-12-1993	Research in Atmospheric Sciences: Development of instruments/sensors for cloud electrification studies
		23-12-1993	25-05-1997	
National Institute of Ocean Technology, (NIOT) Chennai (Ministry of Earth Sciences)	Senior Project Engineer	26-05-1997	14-03-2001	Research in Ocean Sciences: Instrumentation and platforms for ocean observations (air-sea interaction processes)
Indian National Centre for Ocean Information Services, (INCOIS) Hyderabad, (Ministry of Earth Sciences)	Scientist-E	15-03-2001	30-03-2007	Research in Ocean Sciences & Operational Ocean Services (Ocean Observations and Modeling)
	Scientist-F	31-03-2007	31-12-2011	
	Scientist-G	01-01-2012	02-11-2016	
National Centre for Polar and Ocean Research (NCPOR), Goa (Ministry of Earth Sciences)	Director	02-11-2016	10-10-2021	Overall responsibility of India's Polar and Ocean Research
Ministry of Earth Sciences, New Delhi	Secretary to the Govt. of India	11-10-2021	present	To spearhead India's Earth Science program to translate science to services for the society.

• Experience and Expertise

- Atmospheric, oceanographic and Polar Sciences
 - Thunderstorm and lightning, air-sea interaction, upper ocean heat and mass variability, ocean modeling, data assimilation, ocean state and seasonal forecasting, teleconnection between poles and tropics, Institution building.

- Development of sensors, Observations, analysis, understanding, modeling, services of Earth Science realm.

Professional Experience

a. Ministry of Earth Sciences, New Delhi (Oct 2021 to Present)

Position: Secretary to Govt. of India

Responsibilities:

Formulating policies and strategies to further enhance India's scientific and operational services in the Earth Sciences realm (Atmosphere, Hydrosphere, Cryosphere, Geosphere and associated Biosphere)

b. National Centre for Polar and Ocean Research (ESSO-NCPOR), Goa (Nov 2016 to Oct 2021)

Position: Director

Responsibilities:

Overall execution and implementation of India's Polar research (Arctic, Antarctica, Himalaya and Southern Ocean) and Logistics activities, and Geo scientific exploration of non-living resources and surveys in the Indian Ocean.

c. Indian National Centre for Ocean Information Services (ESSO-INCOIS), Hyderabad. (March 2001 to Nov 2016)

Position: Head, Modeling and Ocean observation Group (Scientist-E, Scientist-F and Scientist-G)

Responsibilities:

- Formulation and Execution of **Indian Argo Project** to map the upper ocean thermohaline structure of the Indian Ocean (International Project, leading the Indian and Indian Ocean region)
- Design and coordination of in-situ **Ocean Observing Systems** for the Indian Ocean (IndOOS- Indian Ocean Observing System, an International Project)
- Implementation of **Ocean Data assimilation and Modelling** for operational ocean services
- Project leader to establish first HPC in MoES institutions.
- Data analysis of Ocean and atmospheric variables to understand dynamics and thermodynamics of the Indian Ocean at various temporal spatial scales.
- Validation of Ocean models and satellite derived Ocean parameters.
- Project Management of the Indian Ocean Modeling sub-projects executed by various National institutes/Universities.
- Sub-mesoscale observations under Monsoon Mission

d. National Institute of Ocean Technology (ESSO-NIOT), Chennai (May 1997 to March 2001)

Position: Senior Project Engineer, National Data Buoy Programme

Responsibilities:

- Project formulation and implementation of **National Data Buoy Programme**
- Development of Instruments and Platforms for ocean observations
- Data Management and Quality control of Moored Buoy data (Met-ocean buoys)
- Data analysis and Generation of knowledge products
- Incorporation of additional sensors, Deployment /Servicing of Data buoys
- Value added services to Port and Harbors.

e. Indian Institute of Tropical Meteorology (ESSO-IITM), Pune (Dec 1988 to May 1997)

Position: Senior Scientific Asst. and Junior Scientific Officer, Instruments and Observational Technique Division

Responsibilities:

- Development of Instruments for Cloud Electrification studies
- Study on Lightning Location Systems & Physics of Lightning (Experimental and theoretical modeling)
- Analysis of atmospheric data to understand Global Electric Circuit
- Fundamental research on Atmospheric Physics.

Awards and Honors

- **Certificate of Merit** (2006) by the Ministry of Earth Sciences in the field of Ocean Science & Technology
- **"S Z Qazim Award for Excellence in Marine Sciences"** (2019) in recognition to his contribution to Marine Sciences" by Hon. Governor of Kerala held at School of Marine Sciences, Cochin University of Science and Technology (CUSAT), Kochi.
- **"Dr. Srinivasan Endowment Award"** by Ocean Society of India (OSI) for the contributions in Atmospheric Physics and Ocean dynamics (2019)
- Elected as a Fellow of the **National Academy of Sciences India (NASI)** – 2019
- **National Award in the field of Ocean Science** (2020), in recognition of his outstanding contributions in the field of Ocean Science, by the Ministry of Earth Sciences.
- Prof. K.R. Ramanathan Memorial Lecture Award by Indian Geophysical Union (IGU) -2021
- Elected as a Fellow, **India Meteorological Society (IMS)**, India, 2021
- Elected as a **member of The Norwegian Scientific Academy** for Polar Research (NVP) (2022)

- Elected as a Fellow of the **Indian National Academy of Engineering (INAE)** – 2023
- IGU Decennial Award-2023
- President, Indian Geophysical Union (since 2024)

Member of International Committees / Bodies

- Vice-President, Scientific Committee on Antarctic Research (SCAR) of International Science Council (Capacity Building) (2018-2022)
- Member, Scientific Steering Group (SSG) of World Climate Research Programme of WMO (CLIVAR) (2019-2022)
- Council Member, International Arctic Science committee (IASC) (2016-2022)
- Delegate-India, Scientific Committee on Antarctic Research (SCAR) (2016-2022)
- Indian Rep: Council of Managers of National Antarctic Programs (2016 to 2022)
- Leader of Indian Delegation to Antarctic Treaty System (2016-Present)
- Co-Chair, Indian Ocean Panel of GOOS/CLIVAR, Climate Research program of WCRP (2012-2016)
- Member, International Argo Steering Team & Regional Argo Co-ordinator for the Indian Ocean (2005 to 2017)
- Member, SIBER (Sustained Indian Ocean Biogeochemical and Ecological Research) Scientific Steering Committee (2010- 2017)
- Ocean Expert: UN-WMO/IOC capacity building
- President, Ocean Society of India (2020-2022)

Member of Various National Committee/bodies of Ministry of Earth Sciences, Department of Science and Technology, Council of Scientific and Industrial Research, etc.

Member of Professional Societies

- Indian Meteorological Society, India
- Ocean Society of India (OSI), India
- Indian Society of Remote Sensing (ISRS), India
- Indian Physics Association (IPA), India
- Indian Geophysical Union (IGU), India

Editor

Pure and Applied Geophysics (Atmospheric and Ocean Sciences) (2015 to 2022)

Ph.D. awarded under his Guideship

1. Uday Bhaskar, Acharya Nagarjuna University, Andhra Pradesh, 2011
2. S. Siva Reddy, Andhra University, 2015
3. P L N Murty, IIT-Delhi (Co-Supervisor), 2017
4. Prince Prakash, Andhra University, 2017
5. Pottapinjara Vijay, University of Hyderabad, (Co-Supervisor), 2020
6. Venkat Shesu Reddem, JNTU, Hyderabad, 2022
7. Sourav Chatterjee, Goa University, 2024

Research Cruise

- Spent more than 500 days at sea on-board research vessels for various ocean experiments / deployment of ocean observing platforms

Peer-reviewed Publications

- **Total number of publications (Referred journals / articles only): 178**
- **Book chapters: 4**
- **Citations (as per Google Scholar) – as on 8 Sept 2025:**

	All	Since 2020
Citations	9084	5271
h-index	49	43
i10-index	128	104

Brief about Dr. Ravichandran

Dr. M. Ravichandran has been serving as the Secretary to the Government of India in the Ministry of Earth Sciences (MoES) since October 2021. He earned his Ph.D. in Physics and has had a career spanning various institutions of MoES and with different roles. Initially, he worked as a Scientist in the field of Atmospheric Science at the Indian Institute of Tropical Meteorology (IITM), Pune, from 1988 to 1997. His expertise then extended to the realm of Ocean Technology at the National Institute of Ocean Technology (NIOT), Chennai, where he contributed significantly to the Ocean Observing System from 1997 to 2001. Furthering his contributions to the field of Physical Oceanography, both in observation and modelling, Dr. Ravichandran was associated with the Indian National Centre for Ocean Information Services (INCOIS), Hyderabad, from 2001 to 2016. Before assuming his role as the Secretary, MoES, he was the Director of the National Centre for Polar and Ocean Research (NCPOR) in Goa from 2016 to 2021.

Dr. Ravichandran's areas of interest are diverse and include Atmospheric Physics, Ocean Dynamics, Ocean Observing Systems, Ocean Modelling, and Polar Sciences. He has published over 160 research publications in referred journals and authored four book chapters, earning him more than 7600 citations on Google Scholar.

Throughout his illustrious career, Dr. Ravichandran has held several prominent positions in both national and international committees and organizations. He was the Co-Chair of the Indian Ocean panel of GOOS/CLIVAR from 2012 to 2016, a member of the International Argo Steering Team from 2005 to 2016, and a member of the scientific Steering Committee of SIBER (Sustained Indian Ocean Biogeochemical and Ecological Research) from 2010 to 2016. Moreover, he served as an Ocean Expert for the WMO/IOC Capacity Building and has been involved with various committees under DST, MoES, CSIR, and IISER. His contributions to the Scientific Committee on Antarctic Research (SCAR) of the International Science Council as Vice-President from 2018 to 2022, his membership in the Scientific Steering Group (SSG) of the WCRP of WMO, and his role as a Council Member of the International Arctic Science committee (IASC) until 2022, underscore his significant impact on global climate research initiatives.

Dr. Ravichandran has been recognized with numerous awards for his contributions to the field of Earth Sciences, including a National Award in Ocean Sciences, the Dr. Srinivasan Endowment Award, and the Dr. S Z Qazim Award for excellence in marine sciences. Moreover, he is a Fellow of the National Academy of Sciences (NASI) and the Indian National Academy of Engineering (INAE), Member of the Norwegian Scientific Academy for Polar Sciences, Fellow of India Meteorological Society, President of Ocean Society of India (2020 to 2022), President of Indian Geophysical Union, celebrating his contributions to science and engineering. He was also an editor of Pure and Applied Geophysics (Atmospheric and Ocean Sciences) during 2015-2022.