

BIODATA OF DR. SHAILESH NAYAK

1. **NAME:** **SHAILESH NAYAK**
Director, National Institute of Advanced Studies
Bangalore, India
- Chancellor, TERI-School of Advanced Studies, New
Delhi
2. **DATE OF BIRTH:** August 21, 1953
3. **ADDRESS:** Indian Institute of Science (IISc) Campus
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4. **BIOGRAPHICAL INFORMATION:**

i) **Subject: Earth System Sciences**

Specialization: Oceanography / Remote Sensing

Area(s) of Research: Coastal and Ocean processes, air-sea interaction, natural hazards, coastal geomorphology, geological/geomorphic processes

ii) **Academic Qualification:**

Sl. No	Degree	Subjects	Class	Year	University
1	Ph. D.*	Geology	-	1980	M. S. University of Baroda Vadodara, Gujarat, India
	Title: "Geology of the bauxite deposits of Kutch and Valsad districts (Gujarat State) with special reference to their mode of occurrence, genesis and economic utility"				
2	M. Sc.	Geology	First with Distinction	1975	
3	B. Sc.	Geology, Physics, Chemistry	First	1973	

iii) **Positions Held**

YEAR	INSTITUTE	POSITION HELD
Mar, 2018 onwards	National Institute of Advanced Studies, Bengaluru	Director
Jan. 2019 onwards	TERI School of Advanced Studies (TERI-SAS), Delhi	Chancellor
Jan, 2016 to Nov, 2017	36 th International Geological Congress	President
Oct, 2015 to Mar 2018	Ministry of Earth Sciences (MoES)	Distinguished Scientist
Aug, 2008 to Aug 2015	Ministry of Earth Sciences (MoES)	Secretary, MoES Chairman, Earth Commission
May 2006	Indian National Centre for Ocean Information Centre (INCOIS), MoES	Director

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Feb. 2001	Space Applications Centre (ISRO)	Group Director Marine & Water Resources
Jun 1998	Space Applications Centre (ISRO)	Head Marine & Water Resources
Jan, 1978 to Apr, 2006	Space Applications Centre (ISRO)	Scientist at SAC, ISRO, Ahmedabad
Mar. 1977	Gujarat Engineering Research Institute	Senior Scientific Asst.

iv) Professional recognitions (honors, awards, prizes, honorary degrees)

a) Fellowships

- Academician, International Academy of Astronautics, Paris
- Fellow, Indian National Science Academy, New Delhi
- Fellow, Indian Academy of Sciences, Bengaluru
- Fellow, The National Academy of Sciences, India, Allahabad
- Fellow, International Society of Photogrammetry and Remote Sensing
- Honorary Member, The Association of Hydrologists (AHI), Visakhapatnam
- Fellow, Gujarat Academy of Sciences, Ahmedabad
- Fellow, Indian Society of Remote Sensing, Dehradun
- Fellow, Indian Geophysical Union, Hyderabad
- Fellow, Geological Society of India, Bangalore
- Fellow, Indian Meteorological Society, New Delhi
- Fellow, Indian Society of Geomatics, Ahmedabad
- Fellow, Mineralogical Society of India, Mysore
- Honorary Scientific Consultant, Office of the Principal Scientific Adviser (PSA), Govt. of India.

b) Honorary Degrees

- Honorary Degree of Doctor of Science, Assam University, 2013
- Honorary Degree of Doctor of Science, Andhra University, 2011
- Honorary Degree of Doctor of Science, Amity University, 2014

c) Awards

AWARD	YEAR	CONFERRED BY
Hari Narain Lifetime Achievement Award in Geosciences	2013	Indian Geophysical Union (IGU), Hyderabad
Vikram Sarabhai Memorial Award for 2011-12	2012	Indian Science Congress Association (ISCA), Kolkata
Bhaskara Award	2010	Indian Society of Remote Sensing (ISRS) Dehradun
Web Ratna 09 Platinum Award for Excellence in E-Governance Initiatives for Tsunami Early Warning System Project under the category "Innovative Use of Technology" (Team award)	2010	Dept. of IT and Communications, Government of India
Skoch Challenger Award for Security and Disaster Management (for setting up Tsunami Warning Centre)	2009	Skoch Development Foundation, New Delhi
Indian Space Research Organization's Team Award for Snow and Glacier project	2008	Indian Space Research Organization (ISRO) Bengaluru
Special Achievement in GIS (S.A.G.) Award (for Tsunami Warning Centre)	2008	E.S.R.I., San Diego, USA
Geospatial Solution of the Year for Tsunami	2008	Geospatial Today Magazine,

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Warning System (Team Award to INCOIS)		Hyderabad
Team Award for Rajiv Gandhi National Drinking Water Mission Project	2007	Indian Space Research Organization (ISRO) Bengaluru
National Mineral Award (Applied Geology)	2005	Ministry of Mines, Govt. of India
Indian National Remote Sensing Award	1994	Indian Society of Remote Sensing (ISRS) Dehradun
Hari-Om Ashram Prerit Inter-University Smarak Trust Prize for Geology (1981-82)	1982	Physical Research Laboratory (PRL) Ahmedabad
Dinesh Chokshi Memorial prize for highest marks in M. Sc. (Geology) in 1975	1975	M.S. University of Baroda
Special Mention E-Govt. Projects: INCOIS' Tsunami Warning System		PC Quest. Cyber Media (India) Ltd.

d) Convocation Addresses and Award Lectures

1. Role of Remote Sensing in Weather and Climate Forecasting. Deliver popular talk in the Virtual Symposium on Tropical Meteorology (TROPMET-2020) organized by Indian Meteorological Society (IMS), Delhi and North Eastern Space Applications Centre (NESAC), Shillong, December 16, 2020
2. Earth System Science for Self-reliant India and Global Welfare. Virtual Indian International Science Festival 2020, Indian National Centre for Ocean Information Services, Hyderabad, December 13, 2020
3. Remote Sensing for National Development: The Legacy of Dr. Vikram Sarabhai. Foundation Day Lecture, ESSO-Indian Institute of Tropical Meteorology, Pune. November 17, 2020
4. CSIR Foundation Day Lecture. Sensing for National Development: the legacy of Dr Vikram Sarabhai. CSIR-NGRI, Hyderabad. September 26, 2020.
5. Building from Scratch: The Tsunami Warning System. Valedictory Address at Project Management Practitioners Conference 2018: Architecting Project Management for Value Creation, PMI Bangalore Chapter, Bengaluru, July 14, 2018
6. Convocation Address, Barkatulla Vishwavidyalaya, Bhopal, Feb. 24, 2018
7. Convocation Lecture, 5th Convocation of the Indian Institute of Space Science and Technology, September 14, 2017.
8. Convocation Lecture, 35th Convocation of the *Deen Dayal Upadhyay Gorakhpur University*, March 25, 2017
9. K. D. Malaviya Memorial Lecture, Probing Deep Earth: A Perspective, R & D Meet of ONGC Institutes and KDMPIE Foundation Day, *K. D. Malaviya Institute of Petroleum Exploration, Dehradun*, December 19, 2016
10. Towards Blue Economy: Role of GIS, First Dr. Roger Tomlinson Memorial Talk, *ESRI India Technologies Ltd. Delhi*, December 3, 2015
11. Plenary Talk.:Earth Observations to Services: An Indian Perspective. XXXIII. International Society of Photogrammetry and Remote Sensing Congress. Plenary-1, Prague. July 13, 2016.
12. Distinguished Lecture on Public Policy for Integrating Geo-Science Research to Societal Benefits: The Indian Perspective, 2015 AOGS Conference, *Asia Oceania Geoscience Society, Singapore*, August 6, 2015
13. Plenary Lecture on Opportunities and Challenges in Earth System Science Research in India, XII *International Symposium on Antarctic Earth Science, Scientific Committee on Antarctic Research, Goa*, July 13, 2015
14. India's Global Engagement in Earth System Science, Vikram Sarabhai Memorial Lecture, *Indian Society of Remote Sensing*, December 9, 2014
15. Towards Stewardship of Oceans, 23rd Vikram Sarabhai Memorial Lecture, *Indian Society of Remote Sensing*, Andhra University, Visakhapatnam. December 5, 2013
16. P.R. Pisharoty Memorial Lecture, Kerala Congress on Earth System Science: perspective, January 29, 2012

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17. 48th Convocation Address, *Shivaji University, Kolhapur*, January 25, 2012
18. Earth System Science: A Perspective, Platinum Jubilee Lecture, Earth System Science Session, *99th Science Congress, Bhubaneswar*, January 4, 2012
19. 79th Convocation Address, Climate Change and Humanity, *Annamalai University*, November 9, 2011
20. Prof. R. Vaidyanathan Lecture, *Geological Society of India*, on Remote Sensing for Coastal Geomorphology, Visakhapatnam, September 26, 2011
21. Managing Earth System Geospatially. Todarmal Lecture Series, XXX INCA *International Congress, Dehradun*, November 10, 2010
22. *Indian Society of Geomatics* Millennium Lecture, Impact of Climate Change on Coastal Zone, Ahmedabad, February, 4, 2010
23. H. Sidique Memorial Lecture and Gold Medal of Indian Geophysical Union, ‘Ocean and Society’, *Wadia Institute of Himalayan Geology, Dehradun*, October 5, 2009
24. *Birbal Sahni Institute of Paleobotany* Foundation Day Lecture, ‘Towards Climate Information and Services’, Lucknow, September 10, 2009
25. 26th Convocation Address, *Gandhigram University*, Gandhigram, on ‘Earth Science and Rural Development’, July 18, 2009
26. *Indian Society of Remote Sensing* Pisharoty Memorial Lecture, The Planet Earth: Finite Resources and Civilizations, April 24, 2009, Ahmedabad
27. *Indian Geological Congress* 12th Foundation Lecture of IGC on Tsunami warning System for the Indian Ocean, 16th Convention of the Indian Geological Congress, National Geophysical Research Institute, Hyderabad, February 2, 2009
28. *Indian National Cartographic Association (INCA)*, Dr. S.P. Chatterjee Memorial Lecture on, ‘Remote Sensing and GIS for Coastal Zone Management’, November 22, 2007, Visakhapatnam

v) Membership of Academic/Professional Bodies:

- Life Member, Astronautical Society of India (ASI), Bangalore
- Life Member, Indian Geological Congress (IGC), Roorkee
- Life Member, Indian Society of Geomatics (ISG), Ahmedabad
- Life Member, Indian Society of Remote Sensing (ISRS), Dehradun
- Life Member, Mangrove Society of India (MSI), Goa
- Life Member, Meteorological Society of India (MSI), New Delhi
- Life Member, Ocean Society of India (OSI)

5. INTELLECTUAL PROPERTY, TECHNOLOGICAL INNOVATIONS, NEW PRODUCTS ETC.

- Conceptualized, installed and operationalized the Tsunami Early Warning system for India
- Algorithms and software for retrieving bio-geo-chemical parameters from ocean colour sensors has been provided to many institutions in the country.
- Satellite based technique for identifying potential fishing grounds has been operationally being utilized by the Indian National Centre for Ocean Information Services (INCOIS) for providing forecast to fishermen for the entire Indian coast.
- GIS-based model for selecting suitable sites for brackish water aquaculture

Major R & D projects/programs implemented/being Implemented

As a Director of the National Institute of Advanced Institute of Advanced Studies, providing leadership towards integrating multidisciplinary research output towards sustainable development, conceptualize sustainability and developing policy framework for ‘Blue Economy’.

As a President of the International Geological Congress (IGC-2020) provided leadership to organize scientific activities, logistics and finances as well as interaction with the International Union of Geosciences.

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As a Distinguished Scientist, mainly focused on scientific aspects understanding triggered earthquakes and their impact on society, guidance for developing the flood warning system for Chennai, providing direction and guidance for polar research in India and organizational and coordination issues for implementing international Indian Ocean Expedition.

As the Secretary, MoES, Dr. Shailesh Nayak has initiated several new programmes/centres/activities relating to Global change and use of earth system science for overall societal benefits. To name a few, monsoon mission, severe weather, Arctic research, evolution of Himalayas, earthquake research, ocean biogeochemistry, ocean ecosystem including modelling, multi-hazard warning system, marine resources and Antarctica data base organization and management, web and location-based services, building HPC infrastructure, development of human resources, etc. Due to his efforts, the forecast for weather, climate and hazards has improved considerably. A Centre for Climate Change Research has been established in Pune. A National Centre for Seismology is being set up. The setting up of a Coastal Research Centre has been initiated. A Training School for Climate and Earth System is being set up in Pune. He has initiated discussions and the preparation of a National Vision document on the role Earth Sciences should play in national issues. He also led an expert group for setting up National-GIS which is now under implementation.

As Project Director, Early Warning System for Tsunami and Storm Surge, May 2006, planned and implemented an Early Warning System involving network of seismic stations, tidal stations, bottom pressure recorders, and real time analysis of data, modelling of travel time, propagation of tsunami wave and inundation and generation of high resolution bathymetry and coastal topography data. The work involved direction, guidance, coordination of three departments/ministries and fourteen national institutions involving more than 300 scientists to design, develop and making such system operational in record time of 10 months at a cost of Rs.125 crores. Two major R & D projects, on the tectonic modelling of the Andaman Trench and History of Tsunami have been conceptualized and being implemented through NGRI, PRL, NCAOR, IITs and academic institutions. The capability of India was effectively represented in international fora. One of the major achievements was that the project was executed without any increase in the cost of the project.

Project Director, Argo Project, organized activities related to deployment of ARGO floats in the Indian Ocean, reception and processing data in near real time, quality checks, generation of products and applications. Various applications of Argo data are being developed.

As Director, INCOIS, provided direction and guidance for the societal services in the field of Potential Fishing Zone and Ocean State Forecast Advisories. The success of PFZ advisories is around 74 per cent and led to savings in time and fuel. Due to innovative methods, the user base in fishermen was increased to 27 per cent. The OSF is being widely used by shipping, Coast Guards and the Indian Navy.

A project on 'Chlorophyll Monitoring of the Indian Ocean' was conceptualized and being implemented using MODIS/OCM data. The project is envisaged to help to monitor ecosystem health and will provide input for ecosystem modelling.

As Director of INCOIS, various steps were taken to increase activities in operational oceanography.

At SAC, Conceptualized, executed and guided and provided leadership to following national level projects by involving many national and state level institutions in the field of coastal and marine environment.

Principal Investigator, Jan. 2004 - April 2006, Coastal Studies (inventory, zonation of coral reefs and mangroves, coastal geomorphology, sea level rise, shoreline change, coastal zone information system), and Snow and Glacier Studies (snow monitoring, glacier inventory and retreat, mass balance, information system) Funded by the Ministry of Environment and Forests, Govt. of India (Rs. 30 crores).

Focal Point, Meteorology and Oceanography Programme (funded by ISRO), and Satellite Coastal and Oceanographic Research. Funded by the Dept. of Ocean Development, GOI. 2003 to April 2006, Biological and Geological Oceanography component and Development of Cal Val site in the

Lakshadweep Sea (Rs. 5 crores)

Deputy Project Director, Satellite Coastal and Oceanographic Research. Funded by the Dept. of Ocean Development, GOI. Indian Remote Sensing Satellite (IRS) – P4 OCM Utilisation, ISRO. 1998-2003. Development of algorithms for retrieving bio-geo-chemical parameters from Ocean Colour Monitor (OCM), its validation and operationalization, development of methodology for application of OCM data for fisheries and coastal processes (Rs. 7 Crores).

Focal Point. Development Plans of Kachchh District. Preparation of land and water resources development plans. 2001-2004 (Rs. 2.25 crores).

Deputy Project Director, Integrated Coastal and Marine Area Management Project, Funded by the Dept. of Ocean Development. GOI. 1998-2003. Development of methodology for eco-geomorphological zonation of mangroves and coral reefs using Indian Remote Sensing data (Rs. 1 Crore).

Principal Investigator, Coastal Zone Development. Joint project SPARRSO, Bangladesh and ISRO. Funded BY UN-ESCAP. 1997-2000. Transfer of technology to SPARRSO for coastal studies and specifically selection of brackish water aquaculture sites.

Principal Investigator, IRS P3 Validation Experiment – Ocean. Joint Project DLR, Germany and ISRO. 1995-98. Development of algorithms for retrieving bio-geo-chemical parameters and standardizing validation procedures using MOS-B data Rs. 30 Lakhs).

Project Leader; Land Use Mapping of Coastal Regulation Zone, Funded by the Ministry of Environment and Forests, GOI. 1993-1997. Developed techniques to delineate high tide line and low tide line using satellite data and generated database for the entire country's coastline on 1:25,000 scale and GIS based model for classifying coastal zone for managing coastal zone (Rs. 30 Lakhs).

Principal Investigator, Coastal Studies, Funded by the Dept. of Ocean development, GOI. 1990-1995. Developed methodology for identifying coral reef features and generated data base on coral reef, mangroves and areas under erosion and deposition on 1: 50,000 scale for the entire country's coastline Rs. 50 Lakhs).

Project Leader, Coastal Land Use Mapping for Brackish Water Aquaculture Site Selection, Remote Sensing Application Mission, Funded By the Ministry of Agriculture, GOI.1990-94. Generated data base on coastal land use on 1:50,000 scale and developed a model to integrate satellite-based information with *in situ* information on ecology, infrastructure, etc. to select sites for brackish water aquaculture (Rs. 30 Lakhs).

Project Leader, Coastal Environment, Remote Sensing Applications Mission (RSAM), Funded by the Ministry of Environment and Forests, Govt. of India (GOI). 1988-92. Generated database on coastal wetland/landform and shoreline change on 1:250,000 scale for the entire country's coastline Rs. 18 Lakhs).

Principal Investigator, Monitoring of Coastal Environment, Indian Remote Sensing Utilization Programme (IRS-UP), ISRO. 1984-1990. Developed methodology and classification system for identifying coastal wetland and landform and shoreline change. Prepared a detailed manual for the same (Rs. 32 Lakhs).

Principal Investigator, Coastal Morphology: A Case Study in the Gulf of Khambhat. End-to-End Experiment, National Natural Resources Management System, Indian Space Research Organisation (ISRO). 19

6. LIST OF TEN IMPORTANT PUBLICATIONS

1. **Nayak, S.**, Srinivasa Kumar, T. and Rama Rao, E. P. 2020. *Tsunami Watch and Warning Centres*; In Encyclopedia of Solid Earth Geophysics. (Harsh K. Gupta, Ed.), Springer Dordrecht, https://doi.org/10.1007/978-3-030-10475-7_230-1. (invited contribution)
2. Srinivaskumar, T., Mahendra, R.S., **Nayak, S.**, Radhakrishnan, K., Sahu, K.C. 2010. *Coastal*

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- vulnerability assessment for Orissa State, East Coast of India.* Jour. of Coastal Research. 26(3):523-534. (cited 264 times)
3. **Nayak, S.** 2009. *Application of Remote Sensing and GIS for Coastal Zone Management.* In the Manual of Geographic Information Systems (ed. M. Madden), The American Society for Photogrammetry and Remote Sensing, Bethesda, MD. pp. 1075-1094 (Invited contribution)
 4. Vinaychandran, P. N., Chauhan, P., Mohan, M. and **Nayak, S.** 2004. *Biological response of sea around Sri Lanka to summer monsoon.* Geophysical Research Letters, 31:L01302. 2004. (cited 109 times)
 5. Chauhan, P., Mohan, M., Sarangi, R. K., Beenakumari, **Nayak, S.** and Matondkar, S. G. P. 2002 *Surface chlorophyll a estimation in the Arabian Sea using IRS P4 Ocean Colour Monitor (OCM) satellite data.* Inter. Jour. of Remote Sensing. 23(8):1663-1676. 2002 (cited 78 times)
 6. **Nayak, S.** and Bahuguna, A. 2001. *Application of remote sensing data to monitor mangroves and other coastal vegetation in India.* Indian Jour. Of Marine Sciences. 30(4): 195-213 (cited 128 times)
 7. Solanki H.U., Dwivedi R.M., and **Nayak S.** Somvanshi, V.S., Gulati, D.K. Fishery forecast using OCM Chlorophyll concentration and ACHRR SST: Validation results off Gujarat Coast, Indina Inter. Jour. Remote Sensing 24 (18): 3691-3699. 2003. (cited 78 times)
 8. **Nayak, S.,** Sarangi, R. K. and Rajawat, A. S. 2001. *Application of IRS P4 OCM data to study impact of cyclone on coastal environment of Orissa.* Current Science, 80(9):1208-1213. 2001. (cited 78 times)
 9. **Nayak, S.** *Use of satellite data in coastal mapping.* Indian Cartographer, 22 : 147-157. (cited 62 times)
 10. **Nayak, S.** and Sahai, B. *Coastal morphology: a case study in the Gulf of Khambhat.* Inter. Jour. of Remote Sensing, 6 (3 & 4): 559-567. 1985. (cited 61 times)

7. ACADEMIC AND RESEARCH ACTIVITIES:

National-Curricular

- Member, Governing Board, The Energy and Resources Institute (TERI), New Delhi
- Member, Governing Board, Foundation for Ecological Security (FES), Anand
- Member, Governing Council, Indian Council of World Affairs, New Delhi
- Member, Governing Board, Research and Information System for Developing Countries (RIS), New Delhi
- Member, Apex Committee on STI Policy, Technology-led- Innovation Policy Framework 2020, DST, Govt. of India. (Jan 20)
- Member, Council, National Academy of Sciences, India (2019 onwards).
- Member, Thematic Group (TG-STI) on Policy Governance, PSA and DST, Govt. Of India
- Member, Indian National Commission for cooperation with UNESCO (INCCU), New Delhi. Sub- Commission on Natural Sciences (Jan 20).
- Member, Science and Engineering Research Board, Ministry of Science and Technology, GoI (2010-2015).
- Member, CSIR Society (2010-2015)
- Member of Strategic Policy Group, Cabinet Secretariat, July 2011.
- Member, CoS on National GIS (2011-13)
- Member, Executive Committee on Climate Change, PMO (2013-2015)
- Member, Consultative Group on Climate Change, Ministry of Environment and Forest, GoI (2012-2015)
- Chair, Standing Committee on Meteorology and Ocean Resources, National Natural Resources Management System, Planning Commission, GOI (August 2008-2015)
- Chair, Research Council, National Institute of Oceanography. Goa (2008-2015)

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- Member, DPRC, Ministry of Environment and Forest (Sci. F to G), Jan. 10, 2014
- Member, DPRC, Department of Information Technology (Sci. E to F), April 4, 2013, July 4, 2013
- Member, Peer Review Committee, DRDO, Sci. F to G, G to H, H to DS. July 5, 2013
- Member, Departmental Peer Review Committee, Extension of Service beyond the Age of Superannuation, DRDO. July, 30, 2013
- Member, GIS Advisory Board, National GIS Mission (2013-2014)
- Member, National Steering Committee on Climate Change, MoEF
- Member, Board of Governors, IISER, Pune; IISER, Kolkata
- Member, Apex Committee for DRDO Awards, 2012.
- Member, Advisory Board, State Awards in Science, M. P.
- Member, implementation of Modified FCS in Organizations under Ministry of Water Resources
- Member, Scientific Advisory Committee to the Prime Minister (2008-14)
- Member, Scientific Advisory Committee to the Cabinet (2008-15)
- Member, Search-cum-Selection Committee, CSIR
- Member, expert Committee, UNESCO Kalinga Prize for Popularizing of Science
- Member Award Making Committee, Ministry of Mines, GOI. January 21, 2014
- Member, Programme Advisory Committee on Natural Resources Management and Climate Change, MSSRF, Chennai
- Member, National Bio-resource Board, Delhi
- Visitor's Nominee, Selection Committee for Selection of Professors/Associate Professors/Asst. Professors, IIT-Bombay

b) International (Curricular)

- Chair, Executive Board, Regional Integrated Multi-Hazard Early Warning System (RIMES) for Africa and Asia (2010-2015)
- Co-Chair, Core Committee for Hosting International Geological Congress in 2020 in India
- Represented India at Intergovernmental Global Ocean Observing System (I-GOOS), 2006-2008
- Represented ISRO at the International Ocean Colour Co-ordinating Group (IOCCG). 2001-2004

c) National- Extra- Curricular

- Chair, Research Council, ESSO-National Centre for Polar and Ocean Research (NCPOR), Goa.
- Chair, Research Council, ESSO-National Centre for Coastal Research, Chennai.
- Chair, Research Council, CSIR-National Environmental Engineering Research Institute, Nagpur.
- Chair, Research Council, Wadia Institute of Himalayan Geology (WIHG), Dehradun.
- Chair, Programme Advisory Committee - Koyna Deep Borehole Research, Ministry of Earth Sciences, Govt. Of India (2020-2023).
- Chair, High Level Committee (HLC) for Merging of CSIR Laboratories CSIR -4PI, CSIR-NISCAIR, CSIR-NISTADS as per Apex Committee Proposal (2020).
- Chair, Monitoring Committee of CSIR Mission 'Safety & Security of Vital Installations', New Delhi.
- Chair, Committee of Experts to Review DST-Policy Research Centres, Department of Science and Technology (DST), New Delhi (2018 onwards)
- Chair, Blue Flag India National Jury, Blue Flag India, Pune (2018 onwards)
- Member, Review Committee, Centre of Atmospheric and Oceanic Sciences (CAOS), Centre for Earth Sciences (CEaS) and Divecha Centre for Climate Change (DCCC) at IISc, Bangalore (2018)
- Chair, Expert Group on National Geospatial Policy (NGP), Department of Science and Technology (DST), New Delhi (2018 onwards)
- Chair, Vikram Sarabhai Centenary Celebrations Committee, Indian Space Research Organization, Bengaluru (Dec. 2012 onwards)

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- Chair, National SCAR Committee, Indian National Science Academy, New Delhi (2016-2019)
- Chair, Project Appraisal and Monitoring Committee, Ocean Science and Resources. Ministry of Earth Sciences (2015-). November 19-20, 2015
- Chair, National Organising Committee, International Symposium on the Indian Ocean ' Dynamics of the Indian Ocean: Perspective and Retrospective' to Celebrate 50th Anniversary of Completion of International Indian Ocean Expedition (IIOE) and Golden Jubilee of CSIR-National Institute of Oceanography (NIO), Goa. November 30- December 4, 2015
- Member, Governing Council, The Energy Research Institute, Delhi. (2012 onwards)
- Chair, Research Advisory Committee, Centre for Earth Science Studies, Thiruvananthapuram (2007-14)
- Chair, Governing Body, Birbal Sahni Institute of Paleobotany, Lucknow (2010-2014)
- Chair, Governing Board, Gujarat Energy Research and Management Institute, Gandhinagar (2013 onwards)
- Chair, National Resources Data Management System, Department of Science & Technology (2009-2015)
- President, Indian Social Science Academy (2021-22)
- President, Federation of Indian Geoscientists Association, Hyderabad (2014-2017)
- President, Indian Geophysical Union (2014-2016, 2016-2018, 2020-2022)
- President, Indian Society of Geomatics (2010-14)
- President, Indian Meteorological Society (2012-14)
- President, Indian Society of Remote Sensing (2008-2010, 2016-2018)
- President, Mangrove Society of India (2016 onwards)
- Adviser, Interview Board (Additional Director General, P & A, G. S. I.), UPSC, New Delhi. November 9, 2015
- Chair, GeoSmart India Awards Committee, Geospatial, December 17, 2015
- Chair, Bhatnagar Prize Award Committee for Earth Science, Sep. 4, 2015
- Chair, Award Committee, Indian Society of Geomatics, Ahmedabad
- Member, Editorial Advisory Board, GIS Development
- Member, Advisory Committee, Centre for Mathematical Modelling and Computer Simulation, Bangalore (2007 - 2008)
- Member of Editorial Board, Indian Journal of Marine Science, National Institute of Scientific Communications (2001-2004), Delhi and Geospatial Today, Hyderabad
- Member, National Coastal Zone Authority, MOEF
- Member, Scientific Research Advisory Board, Nansen Environmental Research Centre-India, Kochi (2007 onwards)
- Member, Scientific Advisory Committee, Institute of Seismological Research, Gandhi Nagar (2007 onwards)
- Member, Expert Committee of NRDMS Programme, DST, New Delhi (2007-2008)
- Member, Committee to update and develop Curricula in RS, GIS, GPS and allied subjects, DOS, Bangalore
- Member, Research Advisory Committee, Wadia Institute of Himalayan Geology, Dehradun (2003-06)
- Member, Coastal Protection and Development Advisory Committee (CPDAC), Ministry of Water Resources, GoI. (1999-2008)
- Member, Programme Advisory Committee, Earth Sciences (PAC-ES) – Dept. of Science and Technology, GOI (2004-07, 1998-2001)
- Member, Gujarat Coastal Zone Authority, Gandhinagar
- Member, Expert Group on SAR Interferometer, Department of Science & Technology, GoI (2002-2006)
- Member, Sub-Group I on Cyclone Early Warning System, NDMA
- Chair, Assessment Board, National Institute of Hydrology, Roorkee. Jan. 17, 2014

d) International-Extra-Curricular

- Regional Representative, Asia, International Society of Photogrammetry and Remote Sensing
- President, International Geological Congress-2020 (Dec. 2015 – 2017)
- Member, Integrated Global Ocean Observing System (IGOS) – Coastal Theme. 2003-2006.
- President, International Society of Photogrammetry and Remote Sensing (ISPRS), Technical Commission IV on ‘Geo-databases and Digital Mapping’ (2004-2008).
- Secretary, International Society of Photogrammetry and Remote Sensing (ISPRS), Technical Commission VII on Resource and Environmental Monitoring and Chairman, ISPRS WG VII/3 on ‘Integrated Monitoring System for Resource Management’ (2000-2004).
- Co-ordinated various activities of ISPRS Technical Commission I on ‘Sensors, Platforms and Imagery.’ (1996-2000).
- Organized an International training program on “Remote Sensing of Ocean Colour: Techniques & Applications”, sponsored by IOCCG, POGO and ISRO during February 12-23, 2001 at SAC. Nine participants from abroad and eleven participants from India attended the training program.
- Faculty Member in a Training Course on “Ocean Colour”, Asian Institute of Technology, Organized by NASDA, Bangkok, Thailand, December, 2000
- Faculty member in a training course on “Remote Sensing and GIS for Coastal Applications”, organized by SEAMEO BIOTROP at Bogor, Indonesia during October 20-29, 2001. Delivered lectures and conducted tutorials on Ocean Colour
- A Pre-Conference Training Module on Ocean Colour was organized during PORSEC 2000 during Nov. 30 - Dec.2, 2000 at Goa. An interactive CD-ROM was developed
- Organized a Tutorial on ‘Integrated Coastal Zone Management’, Pre-symposium Tutorial, ISPRS TC VII Symp. December 2, 2002
- Chaired Book Discussion Programme on Rao, U. R. India's Rise as a Space Power. New Delhi: Foundation Books, 2014. Bagla, Pallav & Subhadra Menon. Reaching for the Stars: India's Journey to Mars and Beyond. New Delhi: Bloomsbury, 2014. At India International Centre, New Delhi, April 8, 2015
- Radio Talk on Exploring the Unexplored Antarctica. National Channel, All India Radio. June 17, 2015
- Chairman, Indian Ocean – Global Ocean Observing System (IO-GOOS). (2006-2012)
- Member, International Expert Committee, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences, China (2013 onwards)
- Chair, Indian Ocean Observing System Resource Forum (IRF) (2009-2013)
- Vice Chair, Intergovernmental Coordinating Group on Indian Ocean Tsunami Warning System (ICG-IOTWS), (2007-2011)
- Member, OGC Global Advisory Council, USA
- Executive Committee Member, Partnership for Observation of Global Ocean (POGO), 2006-07

e) Important Committees

- Chair, Committee to Review the Issues related to Coastal Regulation Zone Notification, 2011. Ministry of Environment and Forests, GoI. Formed in June 17, 2014. Submitted Report to the Hon'ble Minister, Ministry of Environment and Forests on January 19, 2015
- Chair, Standardization of Methodology for Demarcation of HTL/LTL, Ministry of Environment and Forests, GoI
- Chair, National GIS Interim Core Group, Planning Commission, GOI. Oct, 2011
- Chair, Task Force on Procedures from Mapping Technology, GOI, 2010

8. INVITED TALKS

- a. International: 38
- b. National: 85
- c. Academic Institutes: 51

Related to Earth system science research and societal benefits, Future Earth, Changing climate, Climate resilience, Impact of climate on coastal environment, Climate information and services, Stewardship of Oceans, Ocean observations and services, Ocean biology and coastal processes, Blue economy, Energy from oceans, Arctic and Antarctica, Himalayan glaciers, Polar science and climate, Geoscience and public policy, Scientific drilling, Monsoon Mission, Forecasting monsoon, Monsoon variability, Disaster and risk reduction, Ocean hazards, Tsunami warning system, Earthquake Risk, Bhuj earthquake, High impact weather, Landslides, Oil spills, Remote sensing Applications, Geographic Information System ((GIS), GIS policy, Data sharing, Ocean data and management, Ocean colour remote sensing, OCEANSAT, Remote sensing applications to fisheries, Remote sensing and coastal zone regulations,, Integrated coastal zone management, Coastal and marine biodiversity, Coastal Mapping, Coastal geomorphology, Space technology for water cycle, Water quality, etc.

9. RECOGNIZED PH. D. GUIDE

University	Subject
Andhra University, Vishakhapatnam	Oceanography
Berhampur University, Berhampur	Marine Science
Gujarat University, Ahmedabad	Geology-Remote Sensing
Vikram University, Ujjain	Geology
University of Pune, Pune	Geology
University of Rajasthan, Jaipur	Geology
Mangalore University, Mangalagangothri	Marine Geology & GeoinforMatics
Nirma University, Ahmedabad	Geology, Earth Science

10. NUMBER OF PH.D.S GUIDED

Name	Topic	Year of Award	University
Sumisha Velloth	Habitat Classification of Coral Reefs of India using Multispectral and Hyperspectral Remote Sensing Data	2015	Mangalore University, Mangalore
Janaki Janak Desai	Applications of Remote Sensing Techniques and GIS to Study Fluvio-Geomorphology and Evolution of Ganga River covering parts of Uttar Pradesh, India	2014	Gujarat University, Ahmedabad
Mini Raman	Estimating Primary Production in the Arabian Sea using Satellite Derived Data	2014	Mangalore University,
Thomaskutty A.V.	Study of Sediment Dynamics along the Coastal Waters off Karnataka based on Remote Sensing and GIS Techniques	2012	Mangalore University
Navin Kumar Bollu	A Remote Sensing and GIS Mineral Prognostic Study in parts of SE Rajasthan	2009	Vikram University, Ujjain
Ramanuj Banerjee	Seismic Hazard Zonation Of Kachchh Area Using Remote Sensing	2009	Pune University
R. K. Sarangi	Impact of surface feature changes on phytoplankton variability in seas off southern part of the Indian peninsula: a remote sensing approach	2008	Berhampur University
A. S. Rajawat	Reconstruction, evolution and significance of paleo-drainage network in Western Rajasthan: an investigation based on multi-sensor satellite data and GIS.	2006	Vikram Univ, Ujjain
Devendra Kumar	Application of satellite-derived terrain parameters for the geomorphic and structural studies in the Jharia coal field, Jharkhand.	2006	Rajasthan University, Jaipur
Yashwant Pradhan	Circulation and dispersal pattern in the Bay of Bengal – a study based on satellite derived ocean colour applications	2005	Berhampur University Berhampur
B. Deshmukh	Geomorphological study of coral reefs in a part of Gulf of Kachchh using remote sensing data	2004	Vikram University, Ujjain

11. CHAIR IN INTERNATIONAL CONFERENCES

1. Moderator. Climate Change Adaptation in Coastal Areas & other Sectors. Side Event at the Twenty-first Session of the Conference of Parties, Paris. Society for Integrated Coastal Zone Management, Ministry of Environment, Forest and Climate Change. December 9, 2015
2. Launch of IIOE -2 and Closing Session. Symposium on the Indian Ocean ' Dynamics of the Indian Ocean: Perspective and Retrospective' to Celebrate 50th Anniversary of Completion of International Indian Ocean Expedition (IIOE) and Golden Jubilee of CSIR-National Institute of Oceanography (NIO), Goa. December 4, 2015
3. Historical climate trends and climate change projections. Workshop on Climate Change Projections, Vulnerability and Adaptation under the aegis of Third National Communication. Ministry of Environment and Forests and Climate Change. October 28, 2015
4. Geopolitics of the Polar Region. International Conference on Geopolitics of Arctic-Antarctic-Himalaya, LIGHTS Research Foundation (Learning in Geography, Humanities and Science), New Delhi. September 29, 2015
5. Make in India. Brain-Storming Meeting on Radar Meteorology. IISc and ESSO-IMD, Bangalore. September 26, 2015
6. Panel Discussion and Closing Session. WMO 3rd International Monsoon Heavy Rainfall Workshop. ESSO-IMD. New Delhi. September 24, 2015
7. President, Federation of Geoscience Associations, Hyderabad (2014-17)
8. President, Indian Union of Geophysics, Hyderabad (2014-17)
9. Plenary Session on Future Earth. ISPRS Technical Commission Mid Term Symposium on 'Operational Remote Sensing Applications: Opportunities, Progress and Challenges. ISRS and ISG, Hyderabad. December 9, 2014
10. Oceans and Monsoons, International Conference on 'Celebrating the Monsoon' IISC, July 26, 2007, Bangalore
11. POGO Business, 8th POGO Meeting, Qingtao, China, January 19, 2007
12. "Implementation Strategy for Coastal Module of GOOS." 3rd Regional GOOS Forum, Cape Town, South Africa, November 14-17, 2006
13. Remote Sensing, 4th Annual Meeting of IO-GOOS, Zanzibar, October 10-12, 2006
14. Early Warning System for various marine hazards – Present Status" at the International Conference on Marine hazards and opportunities", July 3, FICCI, Chennai
15. Silver Jubilee Symposium on Antarctica Expedition, May 25-26, 2006

Research Papers

1. **Nayak, S.** 2020. Sensing for National Development: the legacy of Dr Vikram Sarabhai. Jour. Indian Society of Remote Sensing , 48 (8): 1101-1120. <https://10.1007/s12524-020-01156-x>.
2. **Nayak, S.** 2020. Charting a new course for Oceans. Preface, Special Section, Current Science (Guest Editor), 118 (11): 1679-1680.
3. **Nayak, S.** 2020. Ocean Science to Services. Sentinels of the Seas. Geography and You (Guest Editor). Vol. 20, Issue 6-7, No. 144-145. pp.4-5.
4. **Nayak, S.** 2020. Towards Blue Economy: a perspective. Indian Jour. of Geoscience, 74 (3): 191-196
5. **Nayak, S.** and Suba Chandran D. 2020. Arctic: why India should pursue the North Pole from a science and technology perspective? Current Science, 119 (6): 901-904
6. S. S. C. Shenoi¹, P. L. N. Murty, Ch. Patanjali Kumar¹ , B. Ajay Kumar , M. V. Sunanda, K. Siva Srinivas, J. Padmanabham, Dipankar Saikia, E. Pattabhi Rama Rao and **Shailesh Nayak**, 2020. Are

- we ready for a major tsunami in the Indian Ocean? Special Section, Sustainable Ocean Technologies, Current Science, 118 (11): 1753-1759.
7. Senthil Kumar, A., Aparna, N. and **Nayak, S.** 2020. Remembering IRS-1C Mission: “Game Changer” of Indian Earth Observation Program. J. Indian Society of Remote Sensing. DOI: 10.1007/s12524-020-01183-8.
 8. **Nayak, S.** (Ed.). 2020. Special Section, Quarter Century of Sustainable Ocean Technologies. Current Science (Guest Editor), 118 (11): 1679-1785
 9. Are we ready for a major tsunami in the Indian Ocean? 2020. S. S. C. Shenoi¹, P. L. N. Murty, Ch. Patanjali Kumar¹, B. Ajay Kumar, M. V. Sunanda, K. Siva Srinivas, J. Padmanabham, Dipankar Saikia, E. Pattabhi Rama Rao and **Shailesh Nayak**, Special session on Sustainable Ocean Technologies, Current Science, 118(11): 1753-1759
 10. Hegde, V S., Nayak, SR., Shalini, G., Gosavi, K.D., Rajawat, A.S. and Ramana, I.V. 2019. OCM derived chlorophyll-a dynamics in the nearshore region of the central west coast of India: Implications for fish catch in the area. J. of Marine Biology & Oceanography, 8:2, pp. 1-6.
 11. Krishnan, R., Sabin, T.P., Madhura, R.K., Vellore, R.K., Mujumdar, M., Sanjay, J., **Nayak, S.** and Rajeevan, M. 2019. Non-monsoonal precipitation response over the Western Himalayas to climate change. Climate Dynamics, <https://doi.org/10.1007/s00382-018-4357-2>
 12. Goswami, D., Akkiraju, V. V., Mishra, S., Roy, S., Singh, S. K., Sinha, A., Gupta, H., Bansal, B. K. and **Nayak, S.** 2017. Rock strength measurements on Archean basement granitoids recovered from scientific drilling in the active Konya seismogenic zone, western India. Tectonophysics 712-713:182-192.
 13. **Nayak, S.**, Mohan, R., Ravichandran, M., Pant, N., Ganju, A. and Sathyakumar. 2017. Recent Antarctic Research in India: A Report of the National Committee to SCAR. Proceedings of the Indian National Science Academy 83(2):245-248.
 14. Srinivasu, U., Ravichandran, M., Han, W., Sivareddy, S., Rahman, H., Li, Y. and **Nayak, S.** 2017. Causes or the reversal of North Indian Ocean decadal sea level trend in recent two decades. Climate Dynamics, DOI:101007/s00382-017-3551-y.
 15. Thomaskutty, V., **Nayak, S.** and Bhat, G. 2016. Estimation of extremes in the southern Arabian Gulf. Jour. of Oceanography and Marine Science, 7(3): 24-32. DOU:10.5897/JOMS2016.013
 16. Harikumar, R., BalaKrishnan Nair, T. M., Rao, B. M., Rajendra Prasad, Phani, P. R., Nagaraja, C., Ramesh Kumar, M., Jeyakumar, C., Shenoi, S. S. C. and **Nayak, S.** 2016. Ground-zero met-ocean observations and attenuation of wind energy during cyclonic storm, Hudhud. Current Science, 110 (12):2245-2252.
 17. B.R. Arora, B.K. Bansal, S.K. Prajapati.... **S. Nayak.** 2016. Seismo-tectonics and seismogenesis of Mw 7.8 Gorkha Earthquake and its aftershocks. Jour. Asian Earth Sciences, 2016. <http://dx.doi.org/10.1016/J.jseae.2016.07.018>.

18. H.K. Gupta.....2015. Investigations related to scientific deep drilling to study reservoir-triggered earthquake at Koyna, India. *Int. J. Earth Sci.*, 104:1511-1522, 2015. DOI: 10.1007/5000531-614-1128-0.
19. R. Harikumar, N. K. Hithin, T. M. Balakrishnan Nair, P. Sirisha, B. Krishna Parasad, C. Jeyakumar and **Nayak, S.** 2015. Ocean State Forecast along Ship Routes: Evaluation Using ESSO-INCOIS Real-Time Ship-Mounted Wave Height Meter and Satellite Observations, *Jour. of Atmospheric and Oceanic Technology* · August 2015, doi: 10.1175/Jtech-D-15-0047.1
20. T. Srinivasa Kumar, P.L.N. Murty, M. Pradeep Kumar, M. Krishna Kumar, J. Padmanabham, N. Kiran Kumar, S.C. Shenoi, M. Mohapatra, **S. Nayak** & Prakash Mohanty 2015. Modeling Storm Surge and its Associated Inland Inundation Extent Due to Very Severe Cyclonic Storm Phailin, *Marine Geodesy*, 38:4, 345-360, DOI: 10.1080/01490419.2015.1053640.
21. N. K. Hithin, P. G. Remya, T. M. Balakrishnan Nair, R. Harikumar, Raj Kumar, and **Shailesh Nayak**, 2015. Validation and Intercomparison of SARAL/AltiKa and PISTACH-Derived Coastal Wave Heights Using *In-Situ* Measurements, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*. August 2015, DOI: 10.1109/JSTARS.2015.2418251.
22. Harsh Gupta · N. Purnachandra Rao · Sukanta Roy · Kusumita Arora · V. M. Tiwari · Prasanta K. Patro · H. V. S. Satyanarayana · D. Shashidhar · K. Mallika · Vyasulu V. Akkiraju, D. Ch. V. Raju · Ujjal Borah · K. Chinna Reddy · Narendra Babu · Sunil Rohilla · Upasana Dhar · Mrinal Sen · Y. J. Bhaskar Rao · B. K. Bansal · Shailesh Nayak, 2014. Investigations related to scientific deep drilling to study reservoir-triggered earthquakes at Koyna, India, *Int J Earth Sci (Geol Rundsch)* DOI 10.1007/s00531-014-1128-0.
23. *M.C. Kennicutt II, S.L. Chown, J.J. Cassano, D. Liggett, L.S. Peck, R. Massom, S.R. Rintoul, J. Storey, D.G. Vaughan, T.J. Wilson, I. Allison, J. Ayton, R. Badhe, J. Baeseman, P.J. Barrett, R.E. Bell, N. Bertler, S. Bo, A. Brandt, D. Bromwich, S.C. Cary, M.S. Clark, P. Convey, E.S. Costa, D. Cowan, R. Deconto, R. Dunbar, C. Elfring, C. Escutia, J. Francis, H.A. Fricker, M. Fukuchi, N. Gilbert, J. Gutt, C. Havermans, D. Hik, G. Hosie, C. Jones, Y.D. Kim, Y. Le Maho, S.H. Lee, M. Leppe, G. Leitchenkov, X. Li, V. Lipenkov, K. Lochte, J. López-Martínez, C. Lüdecke, W. Lyons, S. Marensi, H. Miller, P. Morozova, T. Naish, **S. Nayak**, R. Ravindra, J. Retamales, C.A. Ricci, M. Rogan-Finnemore, Y. Ropert-Coudert, A.A. Samah, L. Sanson, T. Scambos, I.R. Schloss, K. Shiraishi, M.J. Siegert, J.C. Simões, B. Storey, M.D. Sparrow, D.H. Wall, J.C. Walsh, G. Wilson, J.G. Winther, J.C. Xavier, H. Yang And W.J. Sutherland, 2014. A roadmap for Antarctic and Southern Ocean science for the next two decades and beyond, *Antarctic Science* 2014. doi:10.1017/S0954102014000674.
24. *Gupta H., **Nayak, S.**, Ellsworth W., Rao Y.J.B., Rajan S., Bansal B.K., Purnachandra Rao N., Roy S., Arora K., Mohan R., Tiwar V.M., Satyanarayana H.V.S., Patro P.K., Shashidhar D., and Mallika K. 2014. Probing reservoir-triggered earthquakes in Koyna, India, through scientific deep drilling. *Scientific Drilling* 18, 5-9. doi:10.5194/sd-18-5-2014.
25. Lotliker, A.A., Srinivasa Kumar, T., Reddem, V.S., **Nayak, S.** 2014. Cyclone Phailin enhanced the productivity following its passage: Evidence from satellite data. *Current Science*, 106 (3), pp. 360-361.

26. Velloth, S., Mupparthy, R.S., Raghavan, B.R., **Nayak, S.** 2014. Coupled correction and classification of hyperspectral imagery for mapping coral reefs of Agatti and Flat Islands, India. *International Journal of Remote Sensing*, 35 (14), pp. 5544-5561.
27. Balakrishnan Nair, T.M., Remya, P.G., Harikumar, R., Sandhya, K.G., Sirisha, P., Srinivas, K., Nagaraju, C., Nherakkol, A., Krishna Prasad, B., Jeyakumar, C., Kaviyazhahu, K., Hithin, N.K., Kumari, R., Sanil Kumar, V., Ramesh Kumar, M., Shenoi, S.S.C., **Nayak, S.** 2014. Wave forecasting and monitoring during very severe cyclone Phailin in the Bay of Bengal. *Current Science*, 106 (8), pp. 1121-1125.
28. Balakrishnan Nair, T.M., Sirisha, P., Sandhya, K.G., Srinivas, K., Sanil Kumar, V., Sabique, L., Nherakkol, A., Krishna Prasad, B., Kumari, R., Jeyakumar, C., Kaviyazhahu, K., Ramesh Kumar, M., Harikumar, R., Shenoi, S.S.C., **Nayak, S.** 2013. Performance of the Ocean State Forecast system at Indian National Centre for Ocean Information Services. *Current Science*, 105 (2), pp. 175-181.
29. Roy, Sukanta., Rao, N.P., V.Akkiraju, Vyasulu., Goswami, Deepjyoti., Sen, Mrinal., Gupta, Harsh., Bansal, B.K., **Nayak, S.** 2013. Granitic Basement below Deccan Traps Unearthed by Drilling in the Koyna Seismic Zone, Western India., *Jour. Geol. Sci. India*, Vol.81, Feb. 2013.
30. Mohanty, P.C., Mahendra, R.S., Bisoyi, H., Srinivasa Kumar, T., Grinson, G., **Nayak, S.**, Kumar Sahu, B. 2013. Assessment of the coral bleaching during 2005 to decipher the thermal stress in the coral environs of the Andaman Islands using remote sensing. *European Journal of Remote Sensing*, 46 (1), pp. 417-430.
31. Sabique, L., Balakrishnan Nair, T.M., Srinivas, K., **Nayak, S.** 2013. Comparison of Grid Averaged Altimeter and Buoy Significant Wave Heights in the Northern Indian Ocean, *Marine Geodesy*, 36 (1), pp. 72-85.
32. Harikumar, R., Balakrishnan Nair, T.M., Bhat, G.S., **Nayak, S.**, Reddem, V.S., Shenoi, S.S.C. 2013. Ship-mounted real-time surface observational system on board Indian vessels for validation and refinement of model forcing fields. *Atmospheric and Oceanic Technology*, 30 (3), pp. 626-637.
33. Ajai, Bahuguna, A., Chauhan, H.B., Sen Sarma, K., Bhattacharya, S., Ashutosh, S., Pandey, C.N., Thangaradjou, T., Gnanappazham, L., Selvam, V., **Nayak, S.** 2013. Mangrove inventory of India at community level *National Academy Science Letters*, 36 (1), pp. 67-77.
34. Sudhakar, T., Dash, S.K., Rao, R.R., Srinivasan, R., Zacharia, S., Atmanand, M.A., Subramaniam, B.R., **Nayak, S.** 2013. Detection of sea-surface temperature anomaly in the equatorial region of Bay of Bengal using indigenous Lagrangian drifter. *Current Science*, 104 (2), pp. 177-178.
35. Prakash, P., Prakash, S., Rahaman, H., Ravichandran, M., **Nayak, S.** 2012. Is the trend in chlorophyll-a in the Arabian Sea decreasing? *Geophysical Research Letters*, 39 (23), art. no. L23605.

36. **Nayak, S.**, Usha, T., Kankara, R.S., Reddy, N.T. 2012. Tsunami Inundation Modeling and Mapping using ALTM- and CARTOSAT-Derived Coastal Topographic Data Marine Geodesy, 35 (4), pp. 429-440.
37. Prakash, P., Srinivasa Kumar, T., Rahman, S.H., **Nayak, S.** 2012. Binning algorithm for high-resolution IRS-P4 OCM chlorophyll image. International Journal of Remote Sensing, 33 (18), pp. 5789-5798.
38. Srinivasa Kumar, T., **Nayak, S.**, Kumar, C.P., Yadav, R.B.S., Kumar, B.A., Sunanda, M.V., Devi, E.U., Kumar, N.K., Kishore, S.A., Shenoi, S.S.C. 2012. Successful monitoring of the 11 April 2012 tsunami off the coast of Sumatra by Indian Tsunami Early Warning Centre. Current Science, 102 (11), p. 1519.
39. Joseph, S., Wallcraft, A.J., Jensen, T.G., Ravichandran, M., Shenoi, S.S.C., **Nayak, S.** 2012. Weakening of spring Wyrтки jets in the Indian Ocean during 2006-2011. Journal of Geophysical Research: Oceans, 117 (4), art. no. C04012.
40. Srinivasa Kumar, T., Mahendra, R.S., **Nayak, S.**, Radhakrishnan, K., Sahu, K.C. 2012. Identification of hot spots and well managed areas of Pichavaram mangrove using Landsat TM and Resourcesat-1 LISS IV: An example of coastal resource conservation along Tamil Nadu Coast, India Journal of Coastal Conservation, 16 (1), pp. 1-12.
41. **Nayak, S.**, Hegde, V.S., Shalini, R., Rajawat, A.S., Ali, M., Venkateshwarlu, B., Ramana, I.V. 2012. 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, 28 (2), pp. 399-406.
42. Hegde, V.S., **Nayak, S.**, Shalini, G., Krishnaprasad, P.A., Rajawat, A.S., Girish, K.H., Tejaswini, B. 2012. Spit dynamics along the central west coast of India: Implications for coastal zone management. Journal of Coastal Research, 28 (2), pp. 505-510.
43. Srinivasa Kumar, T., **Nayak, S.**, Kumar, P., Yadav, R.B.S., Kumar, A., Sunanda, M.V., Uma Devi, E., Shenoi, S.S.C. 2012. Performance of the tsunami forecast system for the Indian Ocean. Current Science, 102 (1), pp. 110-114.
44. *Gupta, H., **Nayak, S.** 2011. Deep scientific drilling to study reservoir-triggered earthquakes in Koyna, Western India. Scientific Drilling, (12), pp. 53-54.
45. Chauhan, O.S., Raghavan, B.R., Singh, K., Rajawat, A.S., Ajai, N., Kader, U.S.A., **Nayak, S.** 2011. Influence of orographically enhanced SW monsoon flux on coastal processes along the SE Arabian Sea. Journal of Geophysical Research: Oceans, 116 (12), art. no. C12037.
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47. *Mahendra, R.S., Mohanty, P.C., Bisoyi, H., Srinivasa Kumar, T., **Nayak, S.** 2011. Assessment and management of coastal multi-hazard vulnerability along the

- Cuddalore-Villupuram, east coast of India using geospatial techniques. *Ocean and Coastal Management*, 54 (4), pp. 302-311.
48. Mahendra, R.S., Mohanty, P.C., Srinivasa Kumar, T., Sheno, S.S.C., **Nayak, S.** 2010. Coastal Multi-hazard vulnerability mapping: A case study along the coast of Nellore District, East Coast of India. *Italian Journal of Remote Sensing / Rivista Italiana di Telerilevamento*, 42 (3), pp. 67-76.
49. ***Nayak, S.** 2010. Societal benefits of earth system science, *Journal of the Indian Institute of Science*, 90 (4), pp. 503-513.
50. **Nayak, S.**, V.S. Hegde, G. Shalini, A.S. Rajawat, K.H. Girish, S. Jayakumar and A. Suryanaryana., 2010. Geomorphic Processes in the Vicinity of the Venkatapur River Mouth, Central West Coast of India:Implications for Estuarine Sedimentation. *Jour. of Coastal Research* 26-5-925-934, West Palm Beach, Florida.
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54. Rahul, P.R.C., Salvekar, P.S., Sahu, B.K., **Nayak, S.**, Srinivasa Kumar, T., 2010. Role of a cyclonic eddy in the 7000-year-old mentawai coral reef death during the 1997 Indian Ocean Dipole event. *IEEE Geoscience and Remote Sensing Letters*, 7 (2), art. no. 5337986, pp. 296-300.
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58. **Nayak, S.** 2009. Tsunami warning system for the Indian Ocean, *Jour. Ind. Geol. Cong.* 1 (2): 20-33.

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60. Hegde, V.S., Shalini, G., **Nayak, S.**, Rajawat, A.S., Suryanarayana, A., Jaykumar, S., Koti, B.K., Girish, G.K. 2009. Low-scale foreshore morphodynamic processes in the vicinity of a tropical estuary at Honnavar, central west coast of India. *Journal of Coastal Research*, 25 (2), pp. 305-31.
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