

# ANNUAL AWARDS – 2012



सत्यमेव जयते

Government of India  
**MINISTRY OF EARTH SCIENCES**  
**EARTH SYSTEM SCIENCE ORGANISATION**  
Prithvi Bhavan, Lodhi Road,  
NEW DELHI-110 003

**JULY, 2012**

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## **ABOUT THE MINISTRY OF EARTH SCIENCES**

The Department of Ocean Development (DOD) was created in July 1981 as a part of the Cabinet Secretariat directly under the charge of the Prime Minister and came into existence as a separate Department in March 1982. The Erstwhile DoD functioned as a nodal Ministry for organizing, coordinating and promoting ocean development activities in the country. In February, 2006, the Government notified the Department as the Ministry of Ocean Development (MoOD).

The Government of India further reorganized the Ministry of Ocean Development and the new Ministry of Earth Sciences (MoES) came into being vide Presidential Notification dated the 12<sup>th</sup> July, 2006 bringing under its administrative control India Meteorological Department (IMD), Indian Institute of Tropical Meteorology (IITM) and National Centre for Medium Range Weather Forecasting (NCMRWF). The Government also approved the setting up of Earth Commission on the pattern of Space Commission and Atomic Energy Commission.

The Earth System Science Organization (ESSO) operates as an executive arm to implement policies and programs of the Ministry of Earth Sciences (MoES). It deals with four branches of Earth Sciences, viz. i) Ocean Science and Technology ii) Atmospheric and Climate Science iii) Geoscience and iv) Polar Science and Cryosphere. The ESSO has been addressing holistically various aspects relating to earth processes for understanding the variability of earth system and for improving forecast of the weather, climate and hazards. The ESSO was established in October, 2007 as a virtual organization, subsequent to the setting up of the MoES, which was formed in 2006 by bringing all the agencies of meteorological and ocean development activities under one umbrella, recognizing the importance of strong coupling among various components of the earth, viz. atmosphere, ocean, cryo-sphere and geo-sphere.

The ESSO primarily aimed to develop and improve capability to forecast, weather, climate and hazard related phenomena for societal, economic and environmental benefits including addressing aspects relating to polar and climate change science and services. The ESSO is also responsible for development of technology towards the exploration and exploitation of marine resources in a sustainable way.

The following is the administrative set up of the Ministry of Earth Sciences.

### **Headquarters**

Government of India  
Ministry of Earth Sciences  
Prithvi Bhavan,  
Lodi Road, New Delhi – 110003.

(Website : [www.moes.gov.in](http://www.moes.gov.in))

### **Attached Office**

Centre for Marine Living Resources and Ecology,  
6<sup>th</sup> Floor, Block-C, Kendriya Bhawan,  
P.O. Kochi Special Economic Zone,  
KOCHI - 2682037  
(Website : [www.cmlre.gov.in](http://www.cmlre.gov.in))

### **Autonomous Bodies**

National Institute of Ocean Technology,  
Vellacherry-Thambaram Road,  
Pallikaranai Village,  
Chennai - 600 100.  
(Website : [www.niot.res.in](http://www.niot.res.in))

National Centre for Antarctic & Ocean Research,  
Headland Sada, Vasco da Gama, Goa – 403 804  
(Website : [www.ncaor.gov.in](http://www.ncaor.gov.in))

Indian National Centre for Ocean Information Service  
“Ocean Valley”  
Pragathi Nagar (BO), Nizampet - PO  
Hyderabad – 500055  
(Website : [www.incois.gov.in](http://www.incois.gov.in))

Indian Institute of Tropical Meteorology,  
Homi Bhabha Road, Pashan, Pune – 411 008.  
(Website : [www.tropmet.res.in](http://www.tropmet.res.in))

### **Project Offices**

Project Directorate,  
Integrated Coastal Marine Area Management,  
NIOT Campus, Vellacherry-Thambaram Road,  
Pallikaranai Village,  
Chennai – 600 100.  
(Website : [www.icmam.gov.in](http://www.icmam.gov.in))

### **Subordinate Office**

India Meteorological Department,  
Mausam Bhawan, Lodi Road,  
New Delhi – 110003.  
([www.imd.gov.in](http://www.imd.gov.in))

National Centre for Medium Range Weather Forecasting,  
A-50, Industrial Area, Phase – II,  
Sector-62, Noida (UP) Pin : 201307  
(Website : [www.ncmrwf.gov.in](http://www.ncmrwf.gov.in))

## ABOUT THE AWARDS

### National Awards for -

- (i) **Ocean Science & Technology and**
- (ii) **Atmospheric Science & Technology**

The National Award on Ocean Science and Technology was instituted in the year 2004 for outstanding lifetime contribution of scientists in the area of Ocean Science and Technology. With the reorganization of the erstwhile Ministry of Ocean Development and setting up of new Ministry of Earth Sciences bringing atmospheric sciences in addition to the Ocean Science & Technology under its purview, another National Award for Lifetime contribution in Atmospheric Science has been instituted in the year 2007. Each of these Awards carries with it's a cash prize of ₹ 1.00 lakh besides citation.

These awards are open to all residents of India. An individual is eligible for these awards only once during his/her lifetime. The nominations for these awards are normally recommended by the Heads of Universities, National Institutes and Scientific Departments of the Government of India. The selection for these awards are made by a High Level Committee of Distinguished Scientists and given on the occasion of Foundation Day Celebrations i.e. 27<sup>th</sup> July every year.

### **Certificate of Merit for Scientists/Engineers in (i) Ocean Science & Technology and (ii) Atmospheric Science & Technology;**

These awards are open for Scientists working in Autonomous organizations and attached/project/subordinate offices under the administrative control of this Ministry. These awards are given in recognition of their scientific contribution towards achieving the tasks/goals assigned to these organizations. An individual is eligible for this award only once during his/her lifetime.

From 2010 onwards, it has been decided to give cash prize of Rs.30,000/- each in addition to trophy and citation.

### **Award for Best Employees**

Erstwhile Ministry of Ocean Development introduced this award in the year 2006 to be given to the "best employee" one each in Group B (Gazetted as well as non Gazetted), Group C and Group D employees of the Ministry and its attached/project offices. The award carries with a citation and a cash prize to each category of employees as under :

Group "B" Employee	:	Rs. 10,000
Group "C" Employee	:	Rs. 7,500/-
Multi Tasking Staff	:	Rs. 5,000/-

With the setting up of new Ministry and keeping in view the fact that there is a tremendous increase in the number of employees as the Indian Meteorological Department and National Centre for Medium Range Weather Forecasting have come under its purview it was decided that from the year 2007 the number of awards in each category should be increased (as under) as against the existing one award in each category.

Group "B" Employee	:	2 Awards (Rs. 10,000 each)
Group "C" Employee	:	2 Awards (Rs. 7,500/- each)
Multi Tasking Staff	:	2 Awards (Rs. 5,000/- each)

From the year 2009, it has been decided not to restrict the number of awardees to 02 (two) every year. It has also been decided not to consider the nominations for awards in respect of those officials who have earlier been awarded.

# **NATIONAL AWARDS**



## Dr. Satish Ramnath Shetye

Dr. Shetye received his M.Sc. (Physics) from Indian Institute of Technology – Bombay, and Ph.D. (Physical Oceanography) from University of Washington, Seattle, USA. On completion of his doctoral studies in 1982 he joined CSIR-National Institute of Oceanography, Goa, and formed a group that has since worked on many aspects of physical oceanography of the waters around India, including the following:



Starting 1987, the group carried out ship-based observations that recorded the annual cycle of hydrography (temperature, salinity, and density fields) of the waters around India. Interpretation of the data helped to establish characteristics of seasonal currents around the Indian coastline. It turned out that these characteristics could not be explained with the theories available then. This attracted attention of physical oceanographers worldwide interested in the study of the Indian Ocean. Dr. Shetye and his group carried out theoretical and modelling studies, independently and in collaboration with others in India and abroad, that led to a new theoretical framework to understand not only the coastal circulation around India, but the circulation of the entire North Indian basin.

In mid-1980s Dr. Shetye initiated studies aimed at understanding the behaviour of the thermal field of the north Indian Ocean to decipher the influence that the ocean has on the Indian summer monsoon. This led to identification of physical processes that play a role in determining spatial and temporal variation of sea surface temperature (SST) in the ocean. Some of the novel results derived from these studies included: role of phytoplankton growth in modulating SST in the Arabian Sea; observations on salinity induced stratification in the Bay of Bengal and its impact on SST field; differences in heat budgets of the surface layers of the Arabian Sea and the Bay of Bengal; and, role of the the SST field in influencing convection over the Bay of Bengal.

Beginning early 1990s Dr. Shetye's group launched a series of studies to understand temporal (from tidal to intra-seasonal to inter-decadal) and spatial (such as inter-basin differences) variability of sea level in the north Indian Ocean. These studies revealed causes of amplification of tides in the Gulfs of Kutch and Khambat; described variability of sea level arising from passage of coastal trapped waves along the west coast of India with periods from few days to few weeks; examined the possibility of inter-decadal sea level changes due to variation of rainfall over the Indian subcontinent; and, identified cause of higher sea level along the east coast of India in comparison to the west coast.

Following the devastating tsunami of 26 December 2006, the group analysed sea level data from the coastal region of India collected by the Survey of India and carried out model studies to conclude that the ocean floor rupture that triggered the tsunami was significantly larger than what was believed to be the case earlier.

Since mid-1990s the group has worked on developing an understanding of the hundred odd estuaries that are found along the Indian coastline. Observations carried out by the group documented the special features of these estuaries that arise from high runoff into the estuaries during the Indian summer monsoon and virtually none during the rest of the year. Dubbed 'monsoonal estuaries' because of this variability in runoff, the studies carried out by the group pointed out that these estuaries are never in a steady state. A novel approach taken by the group was to study an estuary together with hydrology of the catchment area of the rivers feeding an estuary. This permitted realistic estimate of magnitude and temporal variability of the runoff into the estuaries. Future studies that are planned under this research should make it

possible to model the estuaries realistically, thus providing an important tool to manage these anthropologically stressed systems.

The group has been one of the most productive ocean research groups in India and has consistently reported its results in some of the most critically reviewed journals anywhere. By doing so, it has helped to generate confidence in the present understanding of the physical oceanography of the waters around India. Dr. Shetye's contributions to understanding of these waters have earned him many honours, including the Shanti Swarup Bhatnagar Prize for Earth, Atmosphere, Ocean and Planetary Sciences (1992), fellowships of all the three national science academies, New Millennium Science Medal of the Indian Science Congress (2000), and Distinguished Alumnus Award, Indian Institute of Technology, Bombay (2006).

Dr. Shetye's tenure as Director of the CSIR-National Institute of Oceanography, the oldest and largest institute dedicated to ocean sciences in the country, has been marked by a distinct increase in productivity of the institute; enhancement of its infrastructure, including addition of research vessels; a rapid growth in involvement of the institute in ocean science education; and, opening of the School of Oceanography of the CSIR's Academy of Scientific and Innovative Research (AcSIR) in 2011.

Dr. Shetye has served on a number of international bodies that guide global ocean research. In mid-1990s he formulated, at the request of the Intergovernmental Oceanographic Commission (IOC, UNESCO), a programme on sea-level studies that involved countries bordering the Indian Ocean. He also served as member of the Global Sea-level Observing System Group of Experts (GLOSS-GE). During 2001-12, Dr Shetye served as Editor-in-Chief, Journal of Earth System Science (earlier Proceedings of the Indian Academy of Sciences: Earth and Planetary Sciences). He has served or continues to serve on a number of influential national bodies associated with science research and education in the country.

In recognition of outstanding contributions to the Ocean Science & Technology the Ministry of Earth Sciences honors Dr. Satish R Shetye with National Award in Ocean Science and Technology for the year 2012.

## Prof. J. Srinivasan

Prof. J.Srinivasan received his B.Tech degree in Mechanical engineering from IIT, Madras in 1969, Master's degree from State University of New York at Stony Brook in 1971 and Phd from Stanford University in 1975. He was a faculty in Mechanical Engineering department at IIT Kanpur from 1975 to 1982. He joined the Indian Institute of Science in 1982 and became an active member of the newly started Centre for Atmospheric Sciences.



His early work was concerned with radiative transfer in lunar surface and the prediction of downward radiation from clear skies. He was involved in the unraveling the mystery of the "lifted minimum phenomenon" that was first discovered in India. He has developed simple and complex models to unravel the factors that control the poleward migration cloud bands in the tropics during summer. He was the first to identify the latitudinal gradient in vertical stability as the fundamental parameter that controls the poleward migration of cloud bands. He developed simple linear models that showed that poleward migration in some tropical regions is associated with mixed Rossby gravity waves.

His next major contribution was the development of a simple diagnostic model of the monsoon. This model showed that monsoon rainfall was directly proportional to the net radiative heating of the earth-atmosphere system and inversely proportional to the vertical stability of the troposphere. The unique feature of this model is that it does not invoke the concept of land-sea contrast in surface temperature that has been considered essential for driving the monsoon for more than 300 years. He has used the diagnostic model to unravel the factors that lead to poor simulation of the monsoon rainfall in General Circulation models. He has contributed to the understanding of the impact of absorbing aerosols on the Indian monsoon

He was a lead author of the chapter on "radiation" in the second assessment of the Intergovernmental Panel on Climate Change in 1995 and a review editor for the chapter on radiation in the third assessment of IPCC in 2001. He was a lead author of the chapter on "Climate Models" in the fourth assessment of IPCC in 2007. He was the chairman of Centre for Atmospheric and Oceanic Sciences at Indian Institute of Science from 1996 to 2005. He was involved in the creation of a new centre for study of Climate Change at Indian Institute of Science. He became the first Chairman of the new centre called "Divecha Centre for Climate Change" established in 2009. He was the principal investigator in the Indo-French satellite Megha-Tropiques that was launched on 12th October 2011. This is the first satellite devoted to the study of tropical convective systems.

In recognition of outstanding contributions to the Atmospheric Science & Technology the Ministry of Earth Sciences honors Prof. J.Srinivasan with National Award in Atmospheric Science and Technology for the year 2012.

# **CERTIFICATE OF MERIT**

**OCEAN SCIENCE & TECHNOLOGY**

## Dr. Manish Tiwari

Dr. Manish Tiwari born on 26 November 1975 completed B. Sc. (Hons. in Geology) and M.Sc. (Geology) at Banaras Hindu University, Varanasi in 1997 and 1999 respectively. Subsequently, he accomplished Ph.D. with specialization in paleoclimatology and paleoceanography from Physical Research Laboratory, Ahmedabad. Since 2006 he has been working as Scientist at National Centre for Antarctic & Ocean Research, Goa.



Dr. Manish Tiwari's present research aims to reconstruct past variability of Southern Ocean and southern Indian Ocean climate and explore its correlation with the Indian precipitation using sediment cores from the Southern Hemisphere. The past precipitation is being reconstructed using sediment cores along the western coast of India. In this regard, first sub-centennial to centennial scale sea surface temperature (SST) record from the Eastern Arabian Sea has been reconstructed. This study shows that there have been significant fluctuations in the climatic conditions since mid-Holocene - a period until now assumed to be climatically stable in tropical regions - concurrent with high-latitude climate variability. It implies existence of mechanisms linking high-latitude climate with tropics at very short timescales. Another study from southern Indian Ocean has shown that episodes of global warmth were accompanied by more positive Indian Ocean Dipole (IOD) mode events causing stronger precipitation over India. Importantly, it indicates that the presently experienced global warming may induce more of positive IOD mode events in future. Another study involving coupled measurement of the oxygen isotope and salinity of surface water samples from every degree latitude along a transect from India to Antarctica has revealed different hydrological processes active on the surface of the Indian and Southern Ocean. This study also helped to identify discreet water-masses and determine more accurate oxygen isotope-salinity relationship required to calculate paleosalinity using oxygen isotopic values of marine carbonates. Currently a study to quantify the variability in freshwater influx to the Kongsfjorden System relating to ice-melting in the Arctic Region is underway. For this and above mentioned other studies, measurement of the stable isotope composition of seawater and carbonate is required. To carry out such isotopic measurements, a new lab namely Marine Stable Isotope Lab, which houses a Gas Source – Dual Inlet – Stable Isotope Ratio Mass Spectrometer coupled with an Elemental Analyzer has been established successfully by Dr. Tiwari.

Dr. Manish Tiwari is awarded Certificate of Merit for his outstanding contribution in the field of Ocean Science & Technology.

## Dr. V. Ranga Rao

Dr. V. Ranga Rao is presently working as Scientist-E in Integrated Coastal and Marine Area Management Project Directorate, Chennai. He has been working on different aspects of Integrated Coastal Zone Management - particularly coastal erosion, shoreline management, tsunami vulnerability, sea level impacts on Andaman & Nicobar Islands and also Lakshadweep Islands.



Dr. Ranga Rao was instrumental in implementing joint research projects with various Universities, IITs, State Govt. Institutions, PWDs etc and collected vast amount of field data on various coastal oceanographic parameters such as waves, tides, currents, sediments, weather, vulnerability levels etc along Orissa, Andhra, Tamilnadu coasts, Andaman & Nicobar islands and Lakshadweep islands. He trained the research fellows and junior level scientists of Universities, IITs and other State Govt. Institutions in operation and field deployment of oceanographic instruments, data processing, modeling studies, etc. Based on his training, the research fellows are now in a position to carry out the coastal oceanographic studies on their own.

His approach in studying coastal ocean problems by integrating field, model and satellite data is highly appreciated in scientific community. Some of his important contributions in ocean science are i) developing various shoreline management plans for the coastal stretches Ennore, Visakhapatnam, North Chennai etc ii) identifying the mechanisms involved in sea water excursion in different upland river discharge conditions in improving the ecosystem productivity of Chilika lake (Orissa) iii) identifying tsunami vulnerability levels along the coasts of Andhra, Tamilnadu and Andaman and Nicobar islands. iv) Identifying remedial measures for erosion problems caused by abnormal wave and sea level activity along Lakshadweep islands. The shoreline management plans he developed with various institutions are appreciated by the scientific community and are now in implementing stage by various user organizations in India.

Dr. V. Ranga Rao is awarded Certificate of Merit for his outstanding contribution in the field of Ocean Science and Technology.

## **Dr. Basanta Kumar Jena**

Born on 01.04.1969 Dr. Basanth Kumar Jena obtained his Post-Graduation degree in Marine Sciences and Doctorate in Physical Oceanography from Berhampur University, Odisha. Dr. Jena worked as a research scholar at National Institute of Oceanography (NIO), Goa from 1993 to 1998 and thereafter joined National Institute of Ocean Technology (NIOT), Chennai in 1999 and presently holding a position of Scientist - E. Establishment of Coastal Observation Systems along the Indian coast including Andaman Islands under various plan and industrial projects.



As member of NIOT Coastal and Environmental Engineering Group he has been instrumental in Establishment of Coastal HF Radar network system along the Indian coast. Five pairs of 5MHz and one pair of 12 MHz systems are being continuously operated under this programme. The observation data are received at NIOT central server and at INCOIS, Tsunami center at Hyderabad through satellite communication system (VSAT). Analysis of surface current data and wave data measured during cyclonic events are under progress. Results are presented peer reviewed conferences.

He played a major role in Hydrodynamic and Sediment Model studies for installation of a Dam across Gulf of Khambhat, for State Government of Gujarat. This project involves extensive field observations for parameters like tide, currents, wave, wind speed, direction, temperature, humidity, radiation and pressure.

He played a major role in planning and coordination of different plan projects like "Characterization of littoral transport phenomena along key sites of the Indian coast for sustainable Shore line Management", which is aimed at producing a nationwide sediment transport rate atlas for Indian Coast.

Dr. Jena is a member of the panel of reviewers for scientific journals like Current Sciences and Ocean Engineering etc., professional bodies, technical committee of different organisation of MoES and other state and central Government (ICZMP, CWC, IGCAR etc.). He is involved in numerous industry sponsored investigation projects related to marine and coastal development works. He has got around 25 scientific publications in renowned scientific journals and conferences.

Dr. Jena is the Secretary of the Ocean Society of India, Chennai Chapter.

Dr. Basanta Kumar Jena is awarded Certificate of Merit for his outstanding contribution in the field of Ocean Science and Technology.

## **Venkat Seshu Reddem**

Born on 30th October 1977 in Bachel, Chhattisgarh, Shri. Venkat Shesu Reddem obtained his M.Tech. degree in Computer Science and Engineering in 2005 from Acharya Nagarjuna University, Guntur. He joined Indian National Centre for Ocean Information Services in 2007 as Scientist 'B' and presently working as Scientist 'C' in the Data and Information Management Group of INCOIS, Hyderabad.



Shri Venkat Shesu Reddem has made significant contributions to automate the end-to-end data management services for data acquisition, processing, quality control and archival by in-house development and implementation of software applications using open source technologies. He played pivotal role in development of an integrated geospatial solution for ocean data and information system (ODIS) for providing web-based data services. He is also involved in the development of data acquisition software through INSAT communication for tide gauges, ship mounted AWS, wave rider buoys, wave height meters and drifting buoys.

Shri Venkat Shesu Reddem is awarded Certificate of Merit for his outstanding contribution in the field of Ocean Science & Technology.



# **CERTIFICATE OF MERIT**

**ATMOSPHERIC SCIENCE & TECNOLOGY**

## **Dr. Ashish Kumar Mitra**

Dr. Ashis Kumar Mitra joined National Centre for Medium Range Weather Forecasting (NCMRWF) as Scientist-B (SSO-II) in 1989, where he is presently working as Scientist-F. He has been working on different aspects of modelling, particularly the data assimilation, model physical processes, verification/diagnostics and coupled ocean-atmosphere modelling. He has also contributed to the implementation of MoES Multi-Model Ensemble (MME) rainfall forecasting project as team leader. His contribution to the preparation of daily gridded merged satellite-gauge rainfall dataset, leading to model rainfall verification is notable. He has actively participated in various national and international collaborative programmes. Currently, as a team leader his sincere effort in implementing the project 'Coupled Modelling System with Ocean Initialisation for Seamless Prediction' at NCMRWF is another important task he is involved with.



Dr. Ashis Kumar Mitra is awarded Certificate of Merit for his outstanding contribution in the field of Atmospheric Science & Technology.

## **Dr. S.D. Pawar**

Dr. S.D. Pawar is involved in the study of thunderstorm dynamics and its effect on thunderstorm electrification and microphysics, and have made measurements of various electrical parameters in different parts of India to study the interaction of electrical, dynamical and microphysical processes in thunderclouds.



His study brought out some contrasting characteristics of tropical thunderstorms occurring over India with respect to extra-tropical thunderstorms. Some of the thunderstorms over India have found to have different charge structure with dominant positive charge in the lower portion of cloud. His studies have also demonstrated that due to their different dynamical structure, tropical thunderstorms transport large amount of NO<sub>x</sub> and Ozone to the atmospheric boundary layer.

Dr. S.D. Pawar also studied the role of aerosols in the thunderstorm development and intensification. The study on effect of increasing urbanization on lightning activity over four metropolitan cities of India indicates that where aerosol concentrations have increased appreciably, lightning activity shows a sharp increase due to combined positive effect of thermodynamics and aerosols; however, rainfall show a marginal increase because of negative effect of aerosols on rainfall.

From the measurements of submicron aerosols, atmospheric ions and electric conductivity over the Indian Ocean during the Indian Ocean Experiment (INDOEX) and Arabian Sea Monsoon Experiment (ARMEX), Dr. Pawar have identified the presence of large concentrations of aerosols over the Indian Ocean during the northeast monsoon season, which are attributed to the downward transport of submicron aerosols in the subsidence leg of Hadely cell.

Dr. S.D. Pawar is awarded Certificate of Merit for his outstanding contribution in the field of Atmospheric Science & Technology.

## Dr. Kripan Ghosh

Dr. Kripan Ghosh was born in Kolkata, West Bengal on 5th October 1968. He obtained his M.Sc. and Ph.D in Agronomy from the Bidhan Chandra Krishi Viswa Vidyalaya, Mohanpur, West Bengal. He had a good academic record throughout his career. He joined India Meteorological Department (IMD) as Meteorologist in 1998. He has been working in Agricultural Meteorology Division, IMD, Pune since his joining the Department.



Dr. Ghosh has made exceptionally significant contribution in implementation of the project “Integrated Agromet Advisory Service in the country” for preparation of Agromet advisories at District, State and National level and dissemination of the same through multichannel dissemination system like SMS, IVRS, Government and private TV channels, All India Radio, FM radio, local news papers, cable TV etc. Agromet Advisory Services at District level are highly useful to the farming community in reducing crop production by adopting appropriate measures under adverse weather situation and thus, increasing the profit of the farmers. The All India AAS bulletins are also very much useful for the planners for taking policy decision on agriculture as well as adaptive measures for the areas experiencing adverse weather situation.

He has also achieved noticeable success in developing crop yield forecast models for forecasting yields of major crops throughout the country using statistical techniques under the project “Forecasting Agricultural Output using Space, Agrometeorology and Land Based Observations (FASAL)” and transferring the methodologies of crop yield forecast to the State Agromet Centres (SAMCs) of IMD and Agromet Field Units (AMFUs) at different State Agricultural Universities (SAUs), ICAR institutes and IITs. Based on the methodology developed for crop yield forecast and subsequent transfer of methodology enabled the Department to issue yield forecasts for 9 major crops in 273 districts of 18 States during kharif and rabi 2011-12 throughout the country.

Being involved with the project entitled “Extended range forecast system (ERFS) and risk management in Agriculture” operational at IIT, Delhi, he developed tools for ‘Climate risk management in Agriculture’ integrating climate information and crop simulation model and transferred the methodologies to the scientists working under this project at IIT, Delhi as well different Agricultural Universities for understanding performance of different major crops during the growing season using extended range forecast as well as for their subsequent application in preparing advisories in experimental mode.

At present Dr. Ghosh is working as Scientist ‘D’ in Agricultural Meteorology Division, India Meteorological Department, Pune.

Dr. Ghosh is awarded Certificate of Merit for his outstanding contribution in the field of Atmospheric Science & Technology.

## **Dr. A.K. Das**

Born on 25th Sept., 1968 in Paschim Medinipur district of the state West Bengal, Dr. Ashok Kumar Das obtained his M.Sc. degree from Visva Bharati University, Santiniketan in 1994 and was awarded Ph.D. degree from Jadavpur University, Kolkata in 2001.



He joined IMD in March 2003 as Meteorologist Gr. II and is presently working as Scientist- 'C' in the Hydromet Division, India Meteorological Department, New Delhi.

Dr. Das has made significant contributions towards operationalising the use of IMD's operational dynamical models forecast on basin/sub-basin level for all flood prone river sub-basins being meteorologically catered by the 10 Flood Meteorological Offices. These rainfall forecasts are very useful in issuing sub-basin wise Quantitative Precipitation Forecast for day-1, day-2 and day-3 which are used for flood forecasting. He has worked in bringing out the Atlas of State wise Generalised ISOPLUVIAL (Return Period) Maps for whole India, in four parts which are useful for the purpose of the construction and review of small and medium hydraulic structures. He has also contributed significantly in editing the 'Manual of Hydrometeorology (Revised)', which elaborates the latest technical developments in the field of Hydrometeorology. The manual is very useful for wide variety of users like Hydro-meteorologists, Scientists, Researchers and Students etc. In this manual he has also contributed a chapter on 'Role of Flood Meteorological Offices and Quantitative Precipitation Forecast'.

Dr. Das has been engaged in Atmospheric Science research for the past 8 years, specifically in the field of Hydrometeorology and towards implementation of GIS for rainfall analysis on basin/sub basin levels. He has published 16 research publications internationally/nationally.

Dr. Das is awarded Certificate of Merit for his outstanding contribution in the field of Atmospheric Science & Technology.

# **AWARD FOR BEST EMPLOYEES**

## **Group “B” (Gazetted & Non-Gazetted)**

### **Shri Debajyoti Bhattacharya**

From September 1997 onwards Shri D. J. Bhattacharya is posted at CENTRAL TRAINING INSTITUTE ( CTI), PASHAN, PUNE under O/O DEPUTY DIRECTOR GENERAL OF METEOROLOGY (TRAINING) and actively involved with the different training activities of India Meteorological Department (IMD) . Very efficiently he is working as the course officer of one of the very important regular training courses at Central Training Institute. He teaches some important practical subjects. Besides teaching some important practical subjects to the different regular training courses at CTI, he has shown outstanding skill in organizational work also.



In the recent past most important event, took place at CTI, in the “25th Session of WMO EC panel of experts on education and training”, during 26-30 March 2012. In this event he has very successfully managed the transport committee

### **Shri Vipin R Mali**

Shri Vipin R Mali joined the Indian Institute of Tropical Meteorology, Pune on 18.10.2004 as Junior Technical Officer. Presently, working as Senior Technical Officer Grade – II and looking after the duties of Officer In-Charge Purchase and Stores Section which is one of the key post of Institute.



He is leading a team of 10 staff members and successfully performing duty by timely purchase of alls scientific equipments including imported, indigenous as well as consumables required to achieve the Scientific Research Goals of IITM after following various rules prescribed by Ministry of Earth Sciences & GFR.

He is actively involved in Institute’s ambitious and successful project like SAFAR, CAIPEEX etc.

Before Purchase and Stores Section he was posted in the Computer and Data Division of Institute as Computer System Administrator. Based on the excellent service rendered by him, he has been facilitated by Best Employee Award of IITM in Technical Category in 2008.

### **Ms. Bharati Jha**

Smt Bharti Jha is working as Scientific Assistant in DGM Secretariat of India Meteorological Department. She has been assisting DGM and other Senior Officers in various technical & scientific aspects besides routine works of Secretariat.



Smt. Jha took extraneous efforts in preparation of IMD Publication “Climate of Delhi” and in checking/editing of technical aspects of manuscripts of “Climate of capital cities” in respect of Ahmedabad, Mumbai, Bhopal, Nagpur, Jaipur, Panji, Raipur, Shimla and Hyderabad. These publications were highly appreciated by many dignitaries and various other organisations. She assisted in preparation of various reports related to Regional Instruments Maintenance Centre (RIMC), Quality Management System, Review of IMD Modernisation, Plan Proposal for Modernisation Ph.II of IMD, technical reports etc. She is involved in monitoring of IMD Observatory Information System, upper air data, meta data, working status of various

instruments, etc. She also assisted in organization of Training Workshop cum National Seminar on Nowcasting. Her efforts in compilation and uploading of climatological information of various stations and FAQ on IMD website has made available useful information in IMD website in user friendly ways. Smt Jha is a very efficient and resourceful official and takes proactive initiatives in functioning of various activities and keeps a proper track of events.

### **Smt. Hema Rawat**

Smt. Hema Rawat is working as Assistant in National Centre for Medium Range Weather Forecasting (NCMRWF), Noida. She has been assisting in all general administration matters of NCMRWF, Noida single handedly in the absence of Section Officer which includes O&M returns, RTI Matters, tenders, Parliament Questions etc. She also assisted in organizing various meetings/ workshops/ seminars/symposia of national/international level. She has the extraordinary zeal of taking unforeseen situation and volunteers to take additional work of higher responsibility.



### **Shri Shijo Zacharia**

Mr. Shijo Zacharia is working in National Institute of Ocean Technology in development of Marine Instrumentation as Scientific Assistant.

He has completed Masters Degree in Applied Electronics from Anna University Chennai in 2010.

He has designed a novel Tsunami Test Ring for qualification Tsunami detection system in laboratory environment. He has contributed to the technology transfer of acoustic tracking system for ROSUB 6000, Wave Powered Desalination Plant at Vizhijam, Kerala and establishment of Acoustic Test Facility at NIOT. He was a team member in number of offshore experiments conducted by NIOT on board research vessels.



He is well versed with cross compilers, FPGA based systems, optimization of circuits and design of simulation of systems. His areas of interest are Sensor Networks, Low power Embedded Systems, Acoustic Systems and Satellite communication.

He has published nine papers related to Marine Instrumentation and played key role in development of Indigenized Tsunami Detection System, INSAT based low power Drifter Buoy and Acoustic Tide Gauge. He is involved filling three patents during last three years.

### **Shri Suresh Ganti**

Born on 21st June, 1989 in Dhavaleswaram, Andhra Pradesh, Shri. Suresh Ganti obtained his Diploma in Civil Engineering in 2007 from Andhra Polytechnic, Kakinada and pursuing B.Tech in Civil Engineering through Jawaharlal Nehru Technological University, Kakinada. He joined Indian National Centre for Ocean Information Services in 2010 as Scientific Assistant-B in the Executive Support and Services Group of INCOIS, Hyderabad.



Shri Suresh Ganti has made significant contributions in Supervision of



Construction of New Buildings under Phase-II works, scrutiny & clearance of Running Account Bills, coordination with Architect, coordination with agencies of Electrical & HVAC works, active participation in Project Monitoring and Project Steering Committees. He supervised the construction of two storeyed Oceansat Ground Station Lab Building. He is instrumental in laying the pipe lines to INCOIS to secure the water supply from M/s “Hyderabad Metropolitan Water Supply & Sewerage Board”, at the rate of one lakh litre per day. In addition, he also carried out the maintenance of Civil & PH works as and when required. Some of the works executed by him include the construction of compound wall, soil investigation work, procurement of portable cabins etc.,

### **Shri Bhikaji Laxman Redkar**

After the completion of Diploma in Electronics and Engineering in 2002, Shri B L. Redkar joined NCAOR as project assistant, contributing to the early establishment of Ice Core Laboratory at NCAOR. Shri Redkar joined NCAOR in permanent cadre as a Laboratory Technician in 2006. Being the first technical recruit of NCAOR laboratory with an engineering background, Shri Redkar has been responsible for operation and maintenance of sophisticated analytical facilities of NCAOR like the Stable Isotope Ratio Mass spectrometer (SIRMS) and Inductively Coupled Plasma Mass Spectrometer (ICP-MS). Apart from these he is also involved in processing of polar ice cores, clean sample preparations, maintenance and operation of the Liquid Nitrogen plant. He is also involved in the maintenance and monitoring of the cold rooms as well as other laboratory facilities. NCAOR laboratories have greatly benefitted from his technical knowledge and positive attitude.



The excellent contributions made by Shri. Redkar for NCAOR is evident from the fact that his contributions have been appreciated/ acknowledged in 15 research papers published in reputed international and national journals. Recently, he was promoted to Scientific Assistant, Grade B.

### **Group “C”**

### **Shri I.A. Pathan**

Shri I.A. Pathan is working as Junior Executive (Administration) in Indian Institute of Tropical Meteorology, Pune. He is presently posted in Purchase and Stores Section of the Institute and successfully handled the procurement work related to SAFAR 2010, CAIPEEX Phase – II and SAFAR 2011-12 Pune Projects. He also actively involved in relocation/re-installation work of all the equipment installed at Delhi under SAFAR 2010 Project.

He also achieved 5th Rank in All India Level in Hindi Pragya Examination conducted by Department of Official Language, Ministry of Home Affairs, Government of India.



### **Shri J.M. Sinha**

Shri.Jai Mangal Sinha joined in India Meteorological Department on 23rd January, 1987 as Mechanic Grade III and working as Radio Mechanic since 18th April, 1991. He is posted in Information System & Services Division, New Delhi .His contribution to IMD in the Operations and Maintenance of Telecommunication Links International and National, UPS upkeep, Telecommunication Links etc is highly appreciable. He is very hard working, well disciplined, very obedient and ready to accept any kind of job of his nature even during odd hours. Ready to undertake any responsibility assigned by officers and his seniors without any hesitation.



### **Shri Rajnish Kumar**

Shri Rajneesh Kumar is working in Parliament Section of Ministry as Stenographer. He has been mainly involved in Parliament work for smooth functioning of Parliament Session. During Parliament session, he worked with highest Planning and Execution the work with the satisfaction of Ministry. His significant contribution include in (i) establishment of Parliament work through planning, coordination, liaison with various officers and execution of tasks (ii) organization of various Parliament Standing Committee meetings.



### **Shri Bhawesh Kumar Singh**

Shri Bhawesh Kumar Singh is working in Establishment Section of the Ministry as UDC. He joined this Ministry on 08/09/2008as UDC and since then contributed in a great way to the CSS Cadre Management function. A silent working, Shri B.K. Singh needs very little monitoring to accomplish the organizational goal. An asset to the Ministry, whose interpersonal relationship with peers and superiors is exemplary and praiseworthy.



### **Ms. Rathi Kumari**

Ms. R. Rathikumari has been working in national Institute of Ocean Technology, Chennai since its inception in 1994. She is presently Senior Executive and working in Finance & Accounts Section.

She has been involved various works of Finance & Accounts section such as preparation of Annual Accounts of the Institute, preparation of budget estimates, preparing the agenda for the Finance Committee meeting, raising the demand for release of grants by the Ministry, monitoring the expenditure and reporting the financial progress, investment planning, timely remittance of statutory levies viz., Income Tax deducted from the salary, Tax deduction at source from the contractors / service renders, work contract tax and service tax, interacting with the auditors viz., Statutory Auditors of the Institute, Internal Audit of the Administrative Ministry and Comptroller Auditor General of India (CAG), and scrutiny of bills comprising of suppliers/contractors, personal claims, pay and allowances, involved in the preparation of ISO



Manual for the Finance & Accounts Section and nominated as Quality Manager / Internal Auditor by the ISO Cell of the Institute.

She has actively contributed to specific activities like e-Banking Facility, Interaction with the Auditors, Interaction with Tax authorities, Funds management and monitoring, interaction with MoES in project fund monitoring and Office Automation

### **Shri K. Ashok Kumar**

Shri K. Ashok Kumar is working as Technician Grade 'A' at National Institute of Ocean Technology, Chennai. He has been actively involved in assembly, integration & testing for Polymetallic nodules mining projects like Underwater Mining System for long term operation, Underwater Collector and Crusher system for manganese nodule mining, Remotely Operable In-situ soil tester, Remotely Operable Artificial nodule laying system, Study of Hydraulic transport of large solids in hoses etc for several years at NIOT. He actively participated in various sea trials upto 5400 m depth for deep sea mining and related projects in research vessels and he has also carried out survey, soil testing and sample collection from sea bed soil and manganese nodule site at Central Indian Ocean basin. His efficiency in operation, maintenance, trouble shooting, servicing and testing of all sub-sea mechanical systems has been commendable and was immensely useful for polymetallic nodule mining technology development .



### **Smt. Reena S. Naik**

Born in Goa on 14th March 1976. Reena completed her primary education from St. Andrew's Institute, Vasco-da-Gama, Goa and completed her Graduation from Goa University in Commerce in 1996. In addition to this, she did English Stenography and Diploma in Office Management.

She joined NCAOR as Senior Office Assistant (Steno) on 10th December 1999. Since then, is attached to Logistics Division of NCAOR, providing secretarial and official assistance to the Logistic Division. She has been assisting in handling the matters pertaining to the Indian Scientific Expedition to Antarctica.



Recently in February 2012, she was promoted to Co-ordinator, Grade – II.

### **Multi Tasking Staff**

### **Shri S.M. Thorve**

Shri S.M. Thorve joined Indian Institute of Tropical Meteorology, Pune as Gardener in 1982 and presently posted in General Administration (Civil Engineering Department). He is assisting Civil Wind in various committee meetings and he is instrumental in maintaining Green area of Institute. He is also assisting in arranging various civil samples for its inspection.



### **Shri Kishan Lal**

Shri Kishan Lal has been working with Ministry since 1992. He has rich exposure of working with various officers of Ministry viz. Joint Secretary, Under Secretary. At present he is posted in the Office of Advisor & Scientific Secretary (ESSO). He is handling all the work related to distribution of dak/files, operation of photocopier, fax. Serving tea and snacks for visitors and also attends to any other work assigned to her. He is extremely sincere and performs his duty with utmost devotion. His service has been of highest order.



### **Smt. Santosh**

Smt. Santosh has been working with Ministry since 2007. She is working in the Office of Director (Establishmen). Her area of work includes distribution of Dak/ Files, to operate photocopier to send faxes to serve tea and snacks to visitors and also attends to any other work assigned to her. She is extremely sincere and performs her duty with utmost devotion. Her service has been of highest order.



### **Shri Shiv Kumar**

Shri Shiv Kumar is working as Multi Tasking Staff in National Centre for Medium Range Wether Forecasting (NCMRWF), Noida. He handles various day-to-day activities and other matters like getting political clearance, official passport for the officers and other required clearances from various offices. In absence of full staff, his capacity and resourcefulness in handling the work in NCMRWF is well known as he can cover unforeseen situations. He is always present and ready to take tasks that require ingenuity and knowledge.



### **Shri K. Anandan**

Shri. K. Anandan, is working at National Institute of Ocean Technology, Chennai. He has efficiently handled logistic arrangements for men and material for successful accomplishment of tasks assigned to him. Apart from efficiently handling day to day assignments in Vessel Management Cell he is also involved in arranging and providing logistic support for meetings conducted at NIOT. He was awarded a merit certificate for his service for the Conference on Ocean Technology conducted at NIOT in 2003. He participated in cruises in NIOT for the operations of Deep Sea Mining group and Vessel Management Cell.



### **Shri Umesh Halarnkar**

Shri Umesh Halarnkar has joined erstwhile Department of Ocean Development in 1997 as helper and has served in NCAOR on deemed



deputation from September 1998 to March 2011. He has been permanently absorbed in NCAOR from April 2011 as Multi Task Staff.

Shri Umesh has been performing various kind of duties such as Dispatch and Receipt of Letters, maintenance of records, file movement, Folding and Binding of Maps etc. since his deputation to NCAOR.

### **Shri N. Agathiyan**

Shri N. Agathiyan is working as Multi Task Staff at Integrated Marine Area Management Project Directorate (ICMAM-PD), Chennai. He is very sincere in attending the office works and hard working. Other than his routine works, he is driving the field vehicle of ICMAM-PD, preparing various Account Bills, liasoning with PAO office for handing over accounts bills, collecting cheques / DDs and encashing the cheques promptly. His service to ICMAM-PD is highly appreciable.



### **Shri Ashok Kumar**

Shri Ashok Kumar, MA is working in Satellite Application Unit of Satmet Division, IMD from last 09 years. He is very obedient and punctual and dedicated worker. Method of his work is very systematic. He tracks the files, records, reports, Books and satellite imageries very efficiently. He used to compile and arrange the IR, VIS and WV imageries of the Satellite Application Unit, which are later utilized by the officers for R&D.



**EARTH DAY CELEBRATIONS 2012  
WINNERS OF DRAWING & PAINTING COMPETITION**

## **EARTH DAY CELEBRATIONS 2012 Winners of Drawing Competition**

### **Level – I (Class V and below)**

I<sup>st</sup> Prize, Sarvasv, V<sup>th</sup> Standard, Brain International School, New Delhi.

II<sup>nd</sup> Prize, Rishabh Shrivastav, IV<sup>th</sup> Standard, Mount Abu Public School, Rohini, Delhi

III<sup>rd</sup> Prize, Saumya Katariya, IV<sup>th</sup> Standard, Mount Abu Public School, Rohini, Delhi

### **Level – II (VI<sup>th</sup> to X<sup>th</sup> Standard)**

I<sup>st</sup> Prize, Sarnyata D Junghare, IX<sup>th</sup> Standard, J.N.V., Chandrapur, Maharashtra

II<sup>nd</sup> Prize, Abirami Raj, VIII<sup>th</sup> Standard, Raisina Bengali School, New Delhi.

III<sup>rd</sup> Prize, Aniket Mitra, VII<sup>th</sup> Standard, Mount Abu Public School, Rohini, Delhi.

### **Level – III (XI<sup>th</sup> to Graduation)**

I<sup>st</sup> Prize, Tirthak Saha, ICAS, Manipal Institute of Technology (MIT), Manipal

II<sup>nd</sup> Prize, Asim Abbas, 3<sup>rd</sup> Year, B-Tech (Civil), Al-Falah School of Engineering and Technology, Faridabad.

III<sup>rd</sup> Prize, Yogesh Ramesh Pawar, XII<sup>th</sup> J.N.V., Satara.

## **PREVIOUS AWARDEES**

## **PREVIOUS NATIONAL AWARDEES**

### **National Award for Ocean Science & Technology**

Year 2004	:	Dr.S.Z.Qasim
Year 2005	:	Prof. M.Ravindran
Year 2006	:	Dr.B.L.Somayajulu
Year 2007	:	Dr. A.E.Muthunayagam
Year 2008	:	Dr. Harsh K. Gupta
Year 2009	:	Dr. George Joseph
Year 2010	:	Prof. S. Krishnaswami
Year 2011	:	Dr. B.L. Deekshatulu

### **National Award for Atmospheric Sciences**

(Started from the year 2007)

Year 2007	:	Shri D.R.Sikka
Year 2008	:	Prof. Sulochana Gadgil
Year 2009	:	Prof. Shishir Kumar Debe
Year 2010	:	--
Year 2011	:	Prof. R.N. Keshava Murthy

## **AWARDEES OF CERTIFICATE OF MERIT AND BEST EMPLOYEES - 2011**

### **Certificate of Merit for Scientists/Engineers in Ocean Science & Technology**

1. Dr. John Kurian P, National Centre for Antarctic & Ocean Research, Goa.
2. Shri Chodavarapu Patanjali Kumar, Indian National Centre for Ocean Information Services, Hyderabad.
3. Shri R. Saravanan, National Institute of Ocean Technology, Chennai.



## **Certificate of Merit for Scientists/Engineers in Atmospheric Science & Technology**

1. Dr John P. George, National Centre for Medium Range Weather Forecasting, Noida
2. Dr. C. Gnanaseelan, India Institute of Tropical meteorology, Pune
3. Dr. D.R. Pattanaik, India Meteorological Department
4. Dr. A.D. Tathe, India Meteorological Department
5. Dr.Ravi Kant Singh, India Meteorological Department

### **Best Employees:**

#### **Group B:**

1. Smt. Manjua Mehta, Asst. Director (OL), Ministry of Earth Sciences
2. Shri R.K. Sharma, Asst. Meteorologist Grade – I, India Meteorological Department
3. Smt. J. Usha, Assistant, Ministry of Earth Sciences
4. Shri K. Chitrabhanu, Assistant, Ministry of Earth Sciences
5. Smt. Swati Vijay Chandras, Scientific Assistant, India Meteorological Department, Pune
6. Shri T.P. Rangamaran, National Institute of Ocean Technology, Chennai
7. Smt. S.M. Gopalakrishnaa, Co-ordinator Grade – III, National Institute of Ocean Technology, Chennai

#### **Group C:**

1. Shri E.A. Unnikrishnan, LDC, Centre for Marine Living Resources and Ecology (CMLRE), Kochi
2. Ms. Anjana Patwal, Stenographer, National Centre for Medium Range Weather Forecasting (NCMRWF), Noida.
3. Shri Ramesh Chand, Staff Car Driver, Ministry of Earth Sciences
4. Shri S. Charles Satish Kumar, Technican Grade – A, National Institute of Ocean Technology, Chennai
5. Shri V. Aravindan, Radio Mechanic, India Meteorological Department, Chennai
6. Shri P.N. Chopade, Drafts Man, India Meteorological Department

#### **Multi Tasking Staff**

1. Shri Braham Prakash, Ministry of Earth Sciences
2. ShriP. Saloman Raj, National Institute of Ocean Technology, Chennai
3. Shri Nirmal Mondal, India Meteorological Department
4. Shri Ajay Singh, India Meteorological Department

## **Winners of Drawing Competition in Earth Day Celebrations - 2011**

### **Level One (1<sup>st</sup> to 5<sup>th</sup> Standard)**

- 1<sup>st</sup> Prize -- Haimanti Ray, Class V, Delhi University Social Centre Co-Ed  
Secondary School, Block – C, Maurice Nagar, Delhi.  
2<sup>nd</sup> Prize -- Pragati Jha, Class III, Bal Bhawan (Shayamla Hills), Bhopal.  
3<sup>rd</sup> Prize -- Sakshi Goyal, Class V, Center Point, Nagpur.

### **Level Two (6<sup>th</sup> to 10<sup>th</sup> Standard)**

- 1<sup>st</sup> Prize -- Samyak Singh, Class VII, Sharda Vidya Mandir, Bhopal.  
2<sup>nd</sup> Prize -- Anshi Modi, Class VIII, Carmal Convent, BHEL, Bhopal.  
3<sup>rd</sup> Prize -- Harini B, CLASS IX, The Brigade School, Bangalore.

### **Level Three (11<sup>th</sup> to Graduation)**

- 1<sup>st</sup> Prize -- Dharmendra Mewae, Clas XI, Saraswati Vidya Mandir, Shivaji  
Nagar, Bhopal.  
2<sup>nd</sup> Prize -- Gaurav Patel, Class XII, Lucknow Public School, Lucknow.  
3<sup>rd</sup> Prize -- Ahmed Khan, Higher Degree, Institute of Music & Fine Arts,  
Srinagar, Jammu & Kashmir.