

## EARTHQUAKE of RAJASTHAN (NEAR JAISALMER)

An earthquake of moderate intensity with following preliminary epicentral parameters occurred on 9th April 2009 in Rajasthan (near Jaisalmer): Origin time: 07 hrs 17 minutes (IST) of 9<sup>th</sup> April, 2009, Latitude: 27.1° N Longitude: 70.7° E Location: Rajasthan (Near Jaisalmer) Magnitude: 5.3 on Richter scale.

"Everybody runs outdoors, damage negligible in buildings of good design and construction; slight to moderate in well built ordinary structures; considerable in poorly built or badly designed structures; and some chimneys broken, noticed by persons driving motor cars."

The area of Jaisalmer and neighborhood lies in the Seismic Zone III, which is broadly associated with a maximum seismic intensity of VII on MMI scale.

## LONG RANGE FORECAST

India Meteorological Department (IMD) issues operational long range forecasts for the southwest monsoon rainfall in two stages. First stage forecast is issued in April and the second stage forecast is issued in June.

### (a) - FIRST STAGE FORECAST ISSUED ON 17<sup>TH</sup> APRIL, 2009

"IMD's long range forecast for the 2009 southwest monsoon season (June to September) is that the rainfall for the country as a whole is likely to be Near Normal. Quantitatively, monsoon season rainfall is likely to be 96% of the long period average with a model error of  $\pm 5\%$ . The Long period average rainfall over the country as a whole for the period 1941-1990 is 89 cm."

### (b) - SECOND STAGE FORECAST ISSUED ON 24<sup>TH</sup> JUNE 2009

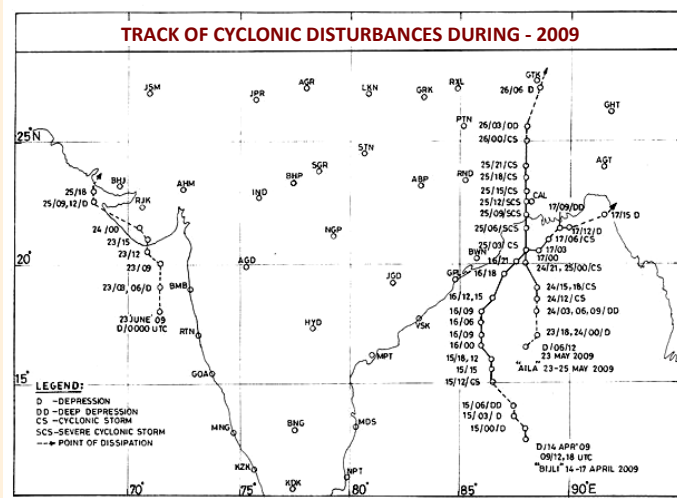
Forecast update for the southwest monsoon season (June-September) rainfall over the country as a whole using a 6-parameter ensemble statistical model with a model error of  $\pm 4\%$ .

Forecast for the monthly rainfall over the country as a whole for the months of July & August using separate principle component regression models with a model error of  $\pm 9\%$ .

Forecasts for the southwest monsoon season (June-September) rainfall for the following four broad geographical regions of India using separate multiple linear regression models with a model error of  $\pm 8\%$ .

## CYCLONIC STORM 'BIJLI'

A cyclonic storm, BIJLI developed over west central Bay of Bengal at 1730 hrs IST of 15<sup>th</sup> April and moved northeastwards and crossed Bangladesh coast close to the south of Chittagaon around 2130 hours IST of 17<sup>th</sup> April, 2009 as a depression. It further moved northeastwards and weakened rapidly. It caused fairly widespread/widespread rain/thundershowers over Nagaland, Manipur, Mizoram, Tripura, Assam and Meghalaya, with isolated heavy falls over Mizoram.



## CYCLONIC STORM 'AILA'

A severe cyclonic storm 'AILA' (23-26 May 2009) formed over the Bay of Bengal and crossed west Bengal coast close to Sagar island between 1330 and 1430 hrs IST of 25th May 2009. It caused scattered heavy rain with isolated extremely heavy rainfall over west Bengal, Sikkim and north coastal Orissa. Gale wind speed reaching 100-120 kmph prevailed along and off west Bengal coast. Squally/gale wind speed reaching 55-75 kmph prevailed along and off north Orissa coast. Storm surge of 2-3 m inundated coastal areas of west Bengal and Bangladesh. Due to this cyclone further advancement of southwest monsoon over south peninsula was hindered for a week.

The SCS, Aila caused loss of about 100 human lives and left several injured in West Bengal apart from loss of extensive properties.

Dr. Shailesh Nayak, Secretary, MoES visited cyclone warning division for on the spot assessment of the cyclone warning work in the division during cyclone, Aila on 25<sup>th</sup> May 2009.



# IMD NEWS

QUARTERLY NEWSLETTER

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INDIA METEOROLOGICAL DEPARTMENT

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## HON'BLE MINISTER OF STATE, MoES, VISITS IMD



The Hon'ble Minister of State, MoES Shri Prithviraj Chavan, alongwith Secretary, MoES, Dr. Shailesh Nayak, visited India Meteorological Department on 23<sup>rd</sup> June 2009. AVM (Dr.) Ajit Tyagi, DGM, and other senior officers of the department welcomed him. DGM apprised him of the current status of summer monsoon. He also gave a brief presentation on various activities of IMD.

## WMO EXECUTIVE COUNCIL MEET

AVM (Dr.) Ajit Tyagi, DGM & Permanent Representative of India with WMO, was on tour to Geneva to attend the 61<sup>st</sup> Session of the WMO Executive Council which was held at WMO Headquarters in Geneva from 3<sup>rd</sup> to 12<sup>th</sup> June 2009.

The WMO Executive Council is responsible for implementation and coordination of various scientific and operational programmes of WMO. Several issues of vital importance, globally as well as for India, were discussed in the meet.

Dr. Ajit Tyagi gave a presentation on Indian Thorpex programme, to improve the predictability of high impact weather events, the observational network and to develop data assimilation strategies and improve the ensemble prediction system. During this meeting he was elected as member of the Executive Council.

## VISIT OF SECRETARY MoES

Dr. Shailesh Nayak, Secretary, MoES, visited Satellite Meteorology Division on 29<sup>th</sup> April 2009 and held detailed discussion with Senior Officers of the Division. He gave valuable suggestions for improving the functioning of the Satellite Division.

## STORM - INTERNATIONAL PROGRAM



(Left to Right) Shri A. K. Bhatnagar, ADGM, AVM (Dr.) Ajit Tyagi, DGM & Chairman, Dr. Kheya Bhattacharya, Jt. Secretary (SAARC) and Dr. Someshwar Das, Director, SMRC Dhaka

India Meteorological Department has organized a two-day meeting of Severe Thunderstorm Observation and Regional Modelling (STORM) - International Program Committee (IPC) at Mausam Bhawan, India Meteorological Department, New Delhi on 13 - 14<sup>th</sup> April, 2009. A Weather Advisory Group has been set up & has started working from IMD, New Delhi.

Meeting of STORM-IPC was inaugurated by AVM (Dr.) Ajit Tyagi, DGM and he also chaired the meeting in absence of Director, SMRC Dhaka, who could not come for the meeting. Dr. Kheya Bhattacharya, Jt. Secretary (SAARC), Ministry of External Affairs, made a brief address at the inaugural function. She emphasized the India's pivotal role in the SAARC activities at the end of the closing session. Secretary, MoES chaired the closing session and assured full support to SAARC - STORM Project.

### Editorial Team

Dr. A. L. Koppa, Shri U.P. Singh, Shri S.C. Sharma, Shri Subhash Khurana, Shri Dinesh Khanna, Shri Gopi Chand

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## UPGRADATION OF PRESSURE STANDARD

Two numbers of Dead Weight Testers (DWT) operating over the pressure range 14 hPa Absolute to 1700 hPa Absolute were procured to replace primary standards and commissioned. Also 100 numbers of Digital Standard Barometers (DSB) were procured as replacement of PAB's. These DSBs will now be used by inspectorate sections of RMCs and MCs for annual comparison of Station Barometers.



Digital Standard Barometers (DSB) employ resonance pressure transducer that is very accurate and stable thus provides Accuracy of 0.05 hPa, resolution of 0.01 hPa and stability of 0.1 hPa/year.



## AIR QUALITY FORECASTING

IMD plans to develop capability for Air Quality Forecasting for major Indian cities and implementation the same during 10th Commonwealth Games at Delhi. A Meeting was held in Pune between officials of IMD, CDAC, CPCB and NEERI. Shri B. Mukhopadhyay, DDGM(DM) represented India Meteorological Department.

## WEBSITES LAUNCHED

**Met Centre, Shimla** has launched its own website [http://www. Weather Shimla.gov.in](http://www.Weather Shimla.gov.in) All are welcome to give suggestions and feedback for making it more useful & user friendly.

**Met Centre, Ahmedabad** has launched its own website : <http://www.imdahm.gov.in> on 3<sup>rd</sup> June 2009.

**Met Centre, Thiruvananthapuram** has launched a Website : <http://www.imd.tvn.gov.in> on 30<sup>th</sup> June 2009. The

## BRIDGE CHAMPIONSHIP 2009



Shri S.K. Deswal, AM-II and Shri R P Gautam, AM-II participated in the 40th Summer National Bridge Championship (2009) held at Pune during 19<sup>th</sup> to 26<sup>th</sup> April 2009, as members of the team representing Central Civil Services Cultural and Sports Board (CCSCSB), New Delhi and secured third position. They have been awarded certificates of appreciation by DGM.

## NEW BUILDING OF MO KURNOOL



The New building of MO Kurnool (AP) has been taken over from CPWD on 12<sup>th</sup> June 2009 and office shifted to new building on the same date.

## भारत रत्न बाबा साहेब डॉ. भीमराव अम्बेडकर की 118वीं जयंती का आयोजन



दिनांक 23 अप्रैल 2009 को भारत मौसम विज्ञान विभाग, नई दिल्ली के प्रांगण में विभाग की अनुसूचित जाति और जनजाति कल्याण संस्था द्वारा भारत रत्न बाबा साहेब डॉ. भीमराव अम्बेडकर की 118वीं जयंती का आयोजन किया गया। विभाग के महानिदेशक डा. अजित त्यागी मुख्य अतिथि के रूप में समारोह में शामिल हुए।

विभाग के सभी अधिकारियों/कर्मचारियों को महानिदेशक महोदय एवं संस्था के महासचिव श्री ब्रह्म पकाश ने संबोधित करते हुए कहा कि इस समय विभाग के सभी कर्मचारियों को एक रहकर विभाग को मजबूत करने और बाबा साहेब के पदचिन्हों पर चलने की आवश्यकता है। मौसम विभाग की सभी यूनिटों के पदाधिकारियों ने भी पुष्पाजली अर्पित की। तत्पश्चात् भंडारे का आयोजन किया गया। बाबा साहेब के इस कार्यक्रम में विभाग के सभी अधिकारियों/कर्मचारियों ने उत्साहपूर्वक भाग लिया और कार्यक्रम को सफल बनाया।

## COMMISSIONING OF GPS SYSTEM

New GPS Upper Air System have been installed & commissioned at 10 places i.e., Thiruvananthapuram, Mohanbari, Chennai, Port Blair, Minicoy, Goa, Hyderabad, Visakhapatnam, Patna and Srinagar in the upper air network of IMD. Regular ascents are being taken and data is transmitted to the RTH, New Delhi.

After the introduction of GPS MODEM radiosonde in the network at 10 places, data quality has improved substantially at these stations, which has been validated by NCMRWF & ECMWF. In all cases the quality change has been remarkable. Reports of MCMRWF and Meteo France have indicated an improvement in data quality over newly installed GPS stations.

## FOREIGN TOURS

**Shri V. K. Soni, Met I** successfully completed GAWTEC (Global Atmosphere Watch Training & Education Centre) Training Course at Environmental Research station Schneefernerhaus (UFS) in Germany from 22<sup>nd</sup> Mar 2009 to 4<sup>th</sup> April 2009.

Four Officers from ISS Division, H.Q., New Delhi under the leadership of **Dr. S. L. Singh**, Director were on tour to Toulouse, France for technical training cum FAT, batch II, Transmet (AMSS) & Transmet (FAT) and ten officers of the department under the leadership of Dr. Medha Khole, Director for batch III Synergie & Synergie FAT for different periods during March and April.

**Shri Thakur Prasad, DDGM(C), Pune** was deputed to Beijing, China to participate in the 50<sup>th</sup> Session of the Forum on Regional Climate Monitoring Assessment and Prediction for Asia (FOCRA II) from 6<sup>th</sup> to 8<sup>th</sup> April 2009.

**Dr. Somenath Dutta, Director (Training), Pune** was deputed to Seoul, Republic of Korea to attend the Regional Training Seminar for National trainers of RA-II and RA-V on National Training, Coaching and Monitoring practices from 27<sup>th</sup> April to 1<sup>st</sup> May 2009.

**Shri B. Mukhopadhyay, DDGM(DM)** on deputation to Dublin, Ireland from 13-15<sup>th</sup> May 2009 to participate in the 1st Joint Committee Meeting of the Working Group on Science & Technology Co-operation.

**Shri S. K. Banerjee, ADGM(H&I)** was on Ex-India deputation to Birmingham, U.K. to attend Group Meetings of ISO-TC-113 'Hydrometry', as part of the Indian Delegation from 17<sup>th</sup> - 23<sup>rd</sup> May 2009.

**Dr. M. Mohapatra**, Director was on deputation to National Climate Data Centre, NOAA Asheville, USA to participate in the International Best Track Archives for Climate Stewardship workshop during 5-7<sup>th</sup> May, 2009.

**Dr. A. B. Mazumdar, DDGM (WF)** attended the seminar on "Interaction between westerly and easterly troughs and their impacts on weather over the SAARC region", held at Islamabad (Pakistan) from 8-9<sup>th</sup> June 2009.

**Shri S. Gnanmurthy, Asstt. Meteorologist Gr. II, RMC Chennai** has been deputed to South Korea for four weeks Automatic Raingauge training which commenced on 15<sup>th</sup> June 2009.

## TOUR TO CANADA FOR 'RTSMN SYSTEM' TRAINING



A team of IMD officers comprising Shri R.S. Dattatrayam, Shri P.R. Baidya, Shri G. Suresh and Shri J. L. Gautam visited the factory site of M/s. Nanometrics Ins. Inc. at Kanata, Canada during the month of April, 2009 for hands on training on various hardware and software related aspects of Real Time Seismic Monitoring Network (RTSMN) system established by IMD as part of Indian Tsunami Early Warning System.

## TOURS

**Shri N. Y. Apte, DDGM(H)** was on tour to attend the 30<sup>th</sup> meeting of Working Group of NIH on 8-9<sup>th</sup> April, 2009 at Roorkee.

**Shri. A. C. Lyngdoh**, Meteorologist in charge was on tour to M.O. Cherrapunjee along with DDGM, RMC, Guwahati on 29<sup>th</sup> April 2009

**Shri Gajendra Kumar**, Met I of DDGM(UI), New Delhi along with MFI team was on tour to M C Patna from 21-23 May 2009 regarding GPS instruments at M C. Patna.

**Dr. S. N. Dutta**, Director of DDGM(Training) was on tour to H.Q. New Delhi for delivering lecture for "Trainer's Guide" on 23<sup>rd</sup> May 2009.

**Mr. Y. K. Reddy**, Director, MC Hyderabad was on tour to CDR Chennai from 28-29<sup>th</sup> May in connection with restoring serviceability of DWR Machilipatnam.

**Dr. R. Suresh**, Director along with Dr. A. Muthuchamy, Director, M.C. Bangalore and was on tour to Mysore on 8<sup>th</sup> June, to assess Meteorological requirements for the upcoming airport at Mysore and also had discussion with airport Controller, AAI, Mysore regarding allotment of space for office and instruments.

**Dr. A. B. Majumdar, DDGM(WF)**, attended Internal meeting regarding services rendered by IMD as precursor to the first meeting of SAC-MS at New Delhi from 14<sup>th</sup> - 16<sup>th</sup> June 2009.

**Dr. R. Suresh**, Director attended the Research Advisory committee meeting of SAMEER on 24<sup>th</sup> June at Chennai and on 25<sup>th</sup> June at Mumbai.

## TRAGEDY AT ANTARCTICA (MAITRI)



Late Shri Kuldeep Wali

All officers & staffs of India Met. Dept. were shocked on sudden demise of Shri Kuldeep Wali, who was deputed to Antarctica as a member of 28<sup>th</sup> Indian Scientific Antarctica Expedition. The IMD officials visited his family and a condolence message was conveyed to the grief stricken family. The Honourable minister of MoES, Secretary MoES and Director General of Meteorology, India Met. Dept. also visited his family and expressed condolence and assured them all possible help to the bereaved family.

Shri Wali suffered a Massive Acute Myocardial infarction at Maitri, Antarctica at 1145 UTC on 1<sup>st</sup> June 2009. In spite of all possible efforts and treatments, he could not be revived and he passed away at 1220 UTC. His body was cremated on 9<sup>th</sup> June at Maitri, Antarctica.

**Shri S. B. Thampi**, Director, CDR, Chennai was on tour to Air Force Administrative College Coimbatore, on 15<sup>th</sup> April 2009 for delivering a guest lecture on "DWR principle, components and products".

**Shri Anand Kumar Sharma**, Director In charge, Meteorological Centre, Dehra Dun delivered invited lecture on "Inter - annual Climate Variability and land use - land cover change" on 23<sup>rd</sup> April to the Master trainers at Forest Research Institute Dehra Dun.

**Dr. P. Khare**, Director and Shri S.I.M. Rizvi, Met I delivered lectures in the three week seminar/workshop organized by Agrimet Division, Pune in C.T.I. during April.

**Dr. Medha Khole**, Director delivered a lecture on the subject "Rain in India" on 19<sup>th</sup> May 2009 at the Institution of Engineers, Shivajinagar, Pune, organized by Marathi Vigyan Parishad, Pune Chapter and Institution of Engineers, Pune.

**Shri K. V. Balasubramanian**, A.M.-II, RMC Chennai delivered a lecture "Meteorology and Climate Change" at Periyar Science & Technology Centre, Chennai on 22<sup>nd</sup> May 2009.

**Shri N. Y. Apte**, DDGM(H) delivered lecture on "Quantitative Precipitation Forecast for Flood Forecasting" at National Institute of Disaster Management, New Delhi on 26<sup>th</sup> May 2009.

**Dr. S. R. Ramanan**, Director, RMC Chennai delivered lecture on "Cyclone Disaster Management" on 2<sup>nd</sup> June 2009 in Disaster Management Training Programme for Home Guards and Civil Defence Officials organized by Anna Institute of Management.

**Shri Anand Kumar Sharma**, Director In charge, Meteorological Centre, Dehra Dun delivered lecture on "Air Pollution and Weather" on 5<sup>th</sup> June 2009 on occasion of World Environment Day at the Doon University Dehra Dun.

**Dr. Medha Khole**, Director delivered a talk on "Coming monsoon & forecast" which was broadcast on All India Radio, Pune on 9<sup>th</sup> June 2009.

**Shri K. Ramachandra Rao**, Director, CDR Machilipatnam delivered a lecture on "Significance of youth in Disaster Management and Mitigation" on 13<sup>th</sup> June 2009 in National Integration Camp held at Machilipatnam.

**Dr. S. K. Roy Bhowmik**, Director delivered a talk entitled "District Level Forecasts for Integrated Agro-advisory Service" on 29<sup>th</sup> June 2009 in the National Workshop on "Climate and Development" organised by Kerala Agricultural University, Thiruvananthapuram.

**Shri K. Santhosh**, Director gave a lecture on "Agromet Advisory Service at District Level" in the National Workshop on Climate and Development organized by State Planning Board and Kerala Agricultural University on 30<sup>th</sup> June 2009.

#### TRAINING ON CROP SIMULATION MODEL AND DSS

Training on use of crop simulation model to develop application tools for decision making in agro-advisory to Technical Officers for AMFUs was conducted in two states (i) Birsa Agricultural University, Ranchi during 12-15 May 2009 & (ii) Acharya N. G. Agricultural University, Hyderabad, Andhra Pradesh during 22-25 June 2009. The purpose of this training was to make users run DSSAT software for different crops in their zones/states and create data base for different cultivars of major crops, soil and weather parameters to support decision making in agriculture risk evaluation and assessment and adapt suitable management practices to use the resources judiciously and to minimize the adverse impact on agricultural production.

#### TRAININGS

**Eight duty officers** (communication) and eighteen AMSS operators were imparted retraining on 3<sup>rd</sup>, 6<sup>th</sup> and 8<sup>th</sup> April 2009 at A.M.O Chennai.

**Twelve Advanced Met Trainees** along with instructor from AFAC Coimbatore were imparted training on 7<sup>th</sup> May, 2009.

A three week basic **Hydromet observer course** batch no. 1 (under Hydrology Project II) commenced w.e.f. 15<sup>th</sup> June 2009 with ten candidates from Goa.

RMC Mumbai had organised two days familiarization training for part time observers in Maharashtra on 17-18<sup>th</sup> June and M.C. Ahmedabad had organised familiarization training for PT observers in Gujarat on 23-24<sup>th</sup> June.

**Twelve IMD staff members** attended the short term course in fundamental of IT & PC applications, Batch-26, organized by Telecom Training Centre.

#### VARSAMANA PROJECT

The second meeting of VARSAMANA Steering Committee was held in IMD, Delhi from 25-26<sup>th</sup> June, 2009 between the delegates of Ministry of Earth Sciences & India Meteorological Department representing the Government of India and the Directors of Meteo France International.

The meetings were attended by Dr. Shailesh Nayak, Secretary, MoES, Dr. Ajit Tyagi, DGM, IMD, Mr. D.P. Singh, Joint Secretary, MoES, Dr Swati Basu, Advisor, MoES, Mr. Dulal Chakrabarti, VARSAMANA Project Director, IMD and senior officers from IMD. Mr. Patrick Benichou, Chairman and Mr. Herve Grimaud, Project Director attended the meeting from MFI side.

The meeting was inaugurated by Dr Tyagi, DGM, IMD on 25<sup>th</sup> June, 2009. and informed the Committee about the "100-day Program" launched by the new Government in place. IMD would be keen on showing some VARSAMANA achievement, especially in the field of Public Weather Services, before the end of 100-day period, i.e. mid-September 2009. Discussions were held on the Progress made in the VARSAMANA Phase-I related to the Integration, Training, Installation of Upper Air Stations & Transmet, CIPS, CLYSIS, Synergie and Meteofactory & TV and action points to complete the project in time.

#### PLAN REVIEW MEETING

A meeting of all nodal officers, DDGM's & Project Directors was held on 8<sup>th</sup> & 9<sup>th</sup> April 2009 at the H.Q., New Delhi. Detailed discussions were held in the meeting on the points (i) The performance of Plan Schemes during Financial Year 2008-09 (ii) Their current status (Physical & Financial) (iii) Planning of objective and realistic targets of schemes in qualitative and quantitative terms and requirements of funds and expenditure management.

#### SECOND JOINT MEETING ISRO - IMD WORKING GROUP

Second Meeting of Joint Working Group (ISRO-IMD) under the Chairmanship of AVM (Dr.) Ajit Tyagi, DGM was held on 1<sup>st</sup> May, 2009. Modernization of Infrastructure in the country and develop skills in advanced modeling was discussed. Senior IMD Officers including ADGM (Sat & ISSD), ADGM (H & I), DDGM (Sat. Met.) and Director (Sat. Met.) in the meeting also participated.

#### ESO MEETING

AVM (Dr.) Ajit Tyagi, DGM, Shri A.K. Bhatnagar, ADGM and Dr. L.S. Rathore, Head Agromet attended the 4<sup>th</sup> ESO Council Meeting held on 16<sup>th</sup>-17<sup>th</sup> April 2009. The meeting was held under the Chairmanship of Dr. Shailesh Nayak, Secretary, MoES and Chairman Earth System Organization (ESO). Dr. Tyagi, DGM made detailed presentation including the 11<sup>th</sup> Plan allocation and programmes of IMD including various elements of the modernization of IMD. Shri A. K. Bhatnagar talked about seismology and earthquake risk evaluation centre. Dr. L. S. Rathore gave a brief about Agro. Advisory Services (AAS) and highlighted the achievements particularly the district level forecast.

#### राजभाषा कार्यन्वयन समिति की बैठक

भारत मौसम विज्ञान विभाग (मुख्यालय) की राजभाषा कार्यन्वयन समिति की 107वीं बैठक महानिदेशक महोदय ए.वी.एम. डॉ. अजित त्यागी की अध्यक्षता में दिनांक 25 जून 2009 को मौसम विभाग के सम्मेलन कक्ष में आयोजित की गई।

#### ADVISORY COMMITTEE MEETING

The 2<sup>nd</sup> meeting of Scientific Advisory Committee on Aviation was held on 27<sup>th</sup> May 2009 at O/o DDGM(WF) Pune under the chairmanship of Dr. R. R. Kelkar, Ex. DGM.

#### OTHER MEETINGS

**Dr. H. R. Hatwar**, ADGM(R) and Dr. D. S. Pai, Director and many other senior officers attended the meeting and participated in the discussions on dated 15<sup>th</sup> April regarding issuing of LRF for monsoon 2009.

**Dr. Ajit Tyagi**, DGM and Shri B.K. Bandyopadhyay, DDGM(S) attended the State Relief Commissioner's meeting at New Delhi on 22<sup>nd</sup> April 2009.

**Shri N. Y. Apte**, DDGM (H) attended 3<sup>rd</sup> meeting of the committee to review the existing Policy of Dissemination of Hydrological Data & Data Pricing on 24<sup>th</sup> April 2009 at CWC, Sewa Bhawan, R. K. Puram, New Delhi.

**Shri S. K. Banerjee**, ADGM(H&I) attended 60<sup>th</sup> meeting of Technical Advisory Committee (TAC) of NIH on 28<sup>th</sup> April, 2009 at Central Water Commission (CWC), R. K. Puram, New Delhi.

**Dr. Medha Khole**, Director attended a review committee meeting of C-DAC on 28<sup>th</sup> April 2009 in Pune.

**Shri S. N. Roy**, DDGM, RMC, Guwahati along with Shri A. C. Lyngdoh, Meteorologist-in-charge, CSO, Shillong attended meeting with Chief Engineer North Eastern Zone, CPWD Superintendent Engineer and Executive Engineer CPWD, Shillong on 28<sup>th</sup> April 2009 at CPWD office Shillong.

**Dr. M. Mohapatra**, Director attended a meeting at NDMA on 29<sup>th</sup> April 2009 regarding finalization of cyclone prone districts of the country.

**Dr. H. R. Hatwar**, ADGM(R), and Shri V. K. Soni, Meteorologist attended 2<sup>nd</sup> National Steering Committee Meeting of Cloud Aerosol Interaction and Precipitation Enhancement Experiment (CAIPEX) held at IITM, Pune on 15<sup>th</sup> May 2009.

**Shri N. Y. Apte**, DDGM(H) attended the third meeting of HISMGM -DD (Hydrological Information System Management Group - Data Use & Data Dissemination), Hydrology Project Phase - II on 15<sup>th</sup> May 2009 convened by Ministry of Water Resources, New Delhi.

**Shri G. N. Raha**, Meteorologist-In-Charge, FMO, Jalpaiguri attended Flood Co-ordination Meeting on 22<sup>nd</sup> May 2009 arranged by the District Magistrate, Jalpaiguri.

**Dr. A. B. Mazumdar**, DDGM (WF) and Dr. Medha Khole, Director attended the field officers review meeting organized by Department of Agriculture, Govt. of Maharashtra on 25<sup>th</sup> May 2009 at Sakhar Sankul, Shivajinagar, Pune.

**Shri M. D. Ramachandran**, Director attended SW monsoon - 2009 pre-assessment meeting in the chamber of Minister of Revenue, Govt. Secretariat, Trivandrum on 2<sup>nd</sup> June 2009.

**Shri K. Santhosh**, Director attended the Committee meeting on Pilot Weather Based Crop Insurance Scheme convened by Director of Agriculture, Govt. of Kerala on 5<sup>th</sup> & 8<sup>th</sup> June 2009.

**Dr. Y. E. A. Raj**, DDGM, RMC Chennai and Shri M. D. Ramachandran, Director-in-charge, MC Thiruvananthapuram had meeting with Suptd. Engineer and Executive Engineer of CPWD to discuss regarding the construction of DWR building at MC Thiruvananthapuram on 16<sup>th</sup> June 2009.

**Dr. Y. E. A. Raj**, DDGM had a meeting with District Collector, Kanyakumari District, Nagarcoil on 15<sup>th</sup> June to discuss about alienation of Land for Kanyakumari Observatory. The case has been pending with PWD, Govt. of Tamil Nadu for issuance of NOC.

**Shri K. Santhosh**, Director attended meetings of State Level Steering Committee and State Hydrology Information System Co-ordination Committee of Hydrology Project-II convened by Additional Chief Secretary, Govt. of Kerala on 26<sup>th</sup> June 2009.

**Shri S. K. Prasad**, DDGM(Trg.) participated in the meeting of board of studies for Atmospheric science, university of Pune regarding recognition of advanced course in General Meteorology by the University.

**IMD CRICKET TEAM WINS THE CHAMPIONSHIP TROPHY**

IMD Cricket team under the captainship of Mr. J. K. Sood of DGM's Office, participated in the Quadrangular Series of Cricket Tournament organized by Survey of India, Dehradun from 2<sup>nd</sup> to 5<sup>th</sup> June, 2009. The final match against the home team Survey of India was played on 5<sup>th</sup> June, 2009. IMD won the final match by 3 wickets and lifted the Championship Trophy. Mr. Radhey Shyam of DDGM(UI) New Delhi office declared as the Best Bowler of the Tournament who took 12 wickets in the tournament whereas Mr. S. S. Naik of RMC Mumbai declared as the Man of the match in the final match who scored 45 valuable runs for IMD victory.



**AVM (Dr.) Ajit Tyagi, DGM and IMD Cricket Team Members with Championship trophy**

**WEATHER FORECAST FOR KAILASH MANSAROVAR YATRA**

Meteorological Centre, Dehradun started issuing Weather forecast for the Kailash-Mansarover Yatra from 5<sup>th</sup> June onwards. Shri Sanjay Singhal (IPS) Deputy Inspector General, Indo Tibetan Border Police (ITBP), has appreciated the accuracy of weather forecast issued by the Meteorological Centre which has proved very useful.

**WEATHER FORECAST FOR AMARNATH YATRA**

IMD is actively involved in issuing sector-wise weather forecast including weather warning for safe and secure journey of Amarnath pilgrims. They are provided Cloud Imagery of the route. Advance information of snowfall is very important for planning forward journey.

**POST TSUNAMI SUSTAINABLE LIVELIHOOD PROGRAMME**

As a part of IFAD Assisted Post Tsunami Sustainable Livelihood programme (exposure visit) for School children of Thiruvallur District, Tamil Nadu organized by District Implementation Office, Thiruvallur, six lectures and field visit by Officers/staff of RMC Chennai were arranged at RMC Chennai on 18<sup>th</sup> – 26<sup>th</sup> June 2009. A total of 377 students visited. An Inaugural function to commence the program was held on 18<sup>th</sup> which was presided over by Dr. Y. E. A. Raj, DDGM, RMC Chennai.

**DESIGN STORM STUDY**

Design Storm Study of Gondhala HE Project, Himachal Pradesh and Kharda Barrage, Maharashtra, have been completed and result intimated to the concerned project authority. Hadgaon (Wardha), Pulgaon Takli Dolari, Manjarpada, Gungashi, Takli Dolari Project, including Adan Project, Maharashtra Hidkal Project, Karnataka have been completed and result intimated to the concerned project authority.

**DATA MANAGEMENT**

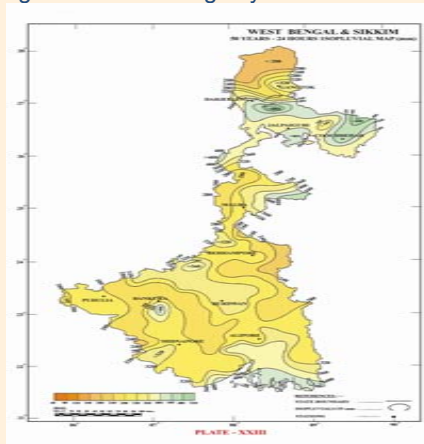
Dr. M. K. Gupta, Member (Irrigation), Bhakra Beas Management Board (BBMB), visited Pune Met. Office on 21<sup>st</sup> April 2009, and held discussions with Dr. H.R. Hatwar, ADGM (R), and all Heads of offices at Pune. Dr. G. Krishnakumar, Director and Dr. P. Guhathakurta, Director also attended the meeting with members of Bhakra-Beas Management board on "Hydrology Project II activities – Data Management" and briefed about NDC activities.

**INSTALLATION**

Automatic Radiation Station for monitoring ultra violet radiation, total radiation, global radiation, diffuse radiation, direct radiation, terminal radiation and net radiation installed and commissioned at M. C. Jaipur, RS/RW building, Chennai and CSO Shillong.

**ISOPLUVIAL ATLAS OF EASTERN INDIA PART II**

Isopluvial Atlas has been issued by Hydrology Division, H.Q. New Delhi. It contains isopluvial maps of 2 year, 5 year, 10 year, 25 year, 50 year and 100 year, 24 hour rainfall for the states of West Bengal & Sikkim, Bihar, Jharkhand and North-Eastern States. This atlas provides fairly reliable estimates of rainfall at a particular point/area for different return periods. These maps may be used by design engineers of various public and private sector organizations for construction of small & medium hydraulic structures, like, dams, culverts, rail/road bridges, irrigation and drainage system etc.



**AGROMET ADVISORY BULLETIN**

Five days rainfall forecast are prepared daily based on WRF and MM5 models run at 10 km resolution for 332 Raingauge stations and 32 districts in Tamilnadu for putting up in the website for the purpose of value addition for the issue of biweekly Agromet Advisory Bulletin issued by AASU Chennai.

**NON DEPARTMENTAL VISITOR**

A group of German Research Scholars visited the CSO Observatory, Shillong on 8<sup>th</sup> April 2009.

Dr. Narendra Jadhav, Vice Chancellor, University of Pune visited Pune, Meteorological Office on 29<sup>th</sup> April 2009. He had discussions with ADGM(R) and all Heads of offices at Pune.

**WORKSHOP**

**Shri Anand Kumar Sharma**, Director, Meteorological Centre, Dehra Dun, organised and participated in the seminar on Scientific explorations under the aegis of Indian Science Writers Association, Uttarakhand Chapter on 5<sup>th</sup> April, 2009.

**Shri P. A. Kore**, Met. I participated in the workshop on user's feedback on 'WISDOM Software' at NWA Pune during 8-9<sup>th</sup> April 2009 conducted by CWC Delhi.

**Shri A. K. Srivastava**, Director attended IBSA Ocean workshop at Goa on 5-6 May and gave a presentation on "Climate Change".

**AVM (Dr.) Ajit Tyagi**, DGM, Dr. H.R. Hatwar, and Shri A. K. Srivastava attended the National Workshop on "Climate Change : Status and Future Plans" at IITM, Pune on 18-19<sup>th</sup> May 2009.

**Shri S. B. Thampi**, Director, CDR Station, Chennai attended Workshop on 'Role of Government Departments in Disaster Management' on 28<sup>th</sup> May, 2009 organized by the Disaster Management and Mitigation Department, Govt. of Tamil Nadu.

**Shri U. P. Singh**, Director (APEC) attended two-day Workshop on "Evaluation of Research Projects for Planning the Indian Scientific Expedition to Antarctica" held on 11-12<sup>th</sup> June 2009 at NCAOR, Goa, and presented Scientific Programme of IMD for 29<sup>th</sup> InSEA and a review of earlier work.

**PUBLICATIONS**

National Climate Centre (NCC) Research Report No.10 "Impact of MJO on the Intraseasonal variation of summer monsoon rainfall over India" by D.S. Pai, Jyoti Bhate, O.P. Sreejith and H.R. Hatwar was published.

Climate of West Bengal has been brought alongwith CD.

Fifty one new books have been added in the H.Q. Library during Apr – Jun '09.

Eight papers and four Letters were published in the departmental research journal "MAUSAM", Vol. 60, No. 2, (April 2009) issue.

The crop yield forecast for wheat for 16 Meteorological sub-divisions for April 2009 were prepared.

**COMMUNICATION, USE OF AGROMETEOROLOGICAL PRODUCTS, SERVICES FOR SUSTAINABLE AGRICULTURE**

The workshop on the Content, Communication and Use of Weather and Climate Products and Services for Sustainable Agriculture brought together more than 80 scientists mainly from Asia and the Pacific, and representatives of the agricultural sector, both from academic world and the farming community. Dr. L. S. Rathore, Head Agromet and Vice President of Commission on Agrometeorology and Dr. N. Chattopadhyay, Director, Agrimet Division, IMD, Pune and Expert Team member for Regional Association II participated in the workshop held from 18<sup>th</sup> to 20<sup>th</sup> May 2009 in Toowoomba, Queensland, Australia. Farmers from the region also actively participated and opined that free and accurate weather and climate forecasts were more important than free seed and fertiliser. "You can always buy seed and fertiliser, but you can't buy the right sort of climate you need for your farming operation", said a farmer.



The workshop adopted recommendations aimed at remedying the communication gap between providers and users of agricultural information and at enhancing the effective use of weather and climate services for sustainable agriculture. Improving weather and climate information for farmers by integrating climate projections into agrometeorological products and by enhancing knowledge sharing between countries was also given the consideration.

**CLIMATE & RISK MANAGEMENT IN AGRICULTURE**



**Dr. L. S. Rathore, AVM (Dr.) Ajit Tyagi, and Dr. P. Raghava Reddy sitting (left to right)**

International Training cum Workshop on Climate Risk Management in Agriculture was organized jointly by Indian Institute of Technology (IIT),

New Delhi, India Meteorological Department and Acharya N.G. Ranga Agricultural University (ANGRAU) at Hyderabad from 27<sup>th</sup> to 30<sup>th</sup> April 2009 to frame the implementation plan for the Agriculture Climate Risk component of the Extended Range Forecasting System Project which is funded by the Department of Agriculture & Cooperation, Ministry of Agriculture, Govt. of India. Eleven Principal Investigators from different State Agricultural Universities and Resource Persons from, IRI Columbia University, New York, ICAR Centres, IMD, IIT, ICRISAT attended the workshop. AVM (Dr.) Ajit Tyagi, Director General of Meteorology, Dr. L. S. Rathore, Head of Agromet and Advisor, MoES, Dr. R. P. Samui, DDGM(Agrimet), Dr. N. Chattopadhyay, Director, Agrimet, Dr. K. K. Singh, Sci.-E for MoES participated.