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IMD NEWS

INDIA METEOROLOGICAL DEPARTMENT
(Ministry of Earth Sciences)



JUL - SEP 2020

Volume 13

Number 3

Important Events / Activities

MAUSAM MOBILE APP



Hon'ble Minister of Earth Sciences, Dr. Harsh Vardhan, Dr. M. Rajeevan, Secretary, MoES, Shri Vipin Chandra, Jt. Secretary, MoES during launching of Mobile APP MAUSAM

India Meteorological Department has taken various initiatives in recent years for improvement in dissemination of weather forecast and warning services based on latest tools and technologies. To further enhance this initiative, **IMD's weather app MAUSAM** was launched by Hon'ble Minister of Earth Sciences, **Dr. Harsh Vardhan** on 27th July, 2020 at the eve of Foundation Day Function of MoES. This Mobile App is dedicated to the general public and designed to communicate the weather information and forecasts in a lucid manner without technical jargons. Users can access observed weather, forecasts, radar images & be proactively warned of impending weather events.

हिंदी पखवाड़ा/हिंदी दिवस 2020

भारत मौसम विज्ञान विभाग के मुख्यालय नई दिल्ली में 14 सितम्बर, 2020 को कोविड - 19 की परिस्थितियों के मद्देनजर सामाजिक दूरी को ध्यान में रखते हुए हिंदी दिवस समारोह आयोजित किया गया। रंग बिरंगे फूलों से सजे और संगीतमय वृष्टि सभागार में इस कार्यक्रम का आयोजन किया गया। हिंदी दिवस समारोह की अध्यक्षता मौसम विभाग के महानिदेशक महोदय डॉ. मृत्युंजय महापात्र ने की।



डॉ. मृत्युंजय महापात्र, मौसम विभाग के महानिदेशक हिंदी दिवस समारोह के दौरान संबोधित करते हुए

WEBSITE, APP and SOCIAL MEDIA LINKS

Mausam App - Android:

<https://play.google.com/store/apps/details?id=com.imd.masuam>

iOS: <https://apps.apple.com/us/app/id1522893967>

Meghdoot App - Android:

<https://play.google.com/store/apps/details?id=com.imd.masuam>

iOS: <https://apps.apple.com/in/app/meghdoot/id1474048155>

Dhamini App - Android:

<https://play.google.com/store/apps/details?id=com.lightening.live.damini>

iOS: <https://apps.apple.com/app/id1502385645>

Website Links:

Mausam Website: <https://mausam.imd.gov.in/>

RSMC: <http://rsmcnewdelhi.imd.gov.in/index.php>

Satellite: <https://www.satellite.imd.gov.in/insat.htm>

NWP: <https://nwp.imd.gov.in/>

DDGMUI: <https://ddgmui.imd.gov.in>

IMD Pune: <http://imdipune.gov.in/>

AgrometPune: <http://imdagrmet.gov.in/indproject/AGIndex.php>

RMC Chennai: <http://www.imdchennai.gov.in/>

RMC Guwahati: <http://www.imdguwahati.gov.in/>

RMC Kolkata: <http://www.imdkolkata.gov.in/>

RMC Mumbai: <http://www.imdmumbai.gov.in/>

RMC Nagpur: <http://www.imdnagpur.gov.in/>

RMC New Delhi: <https://rsmcnewdelhi.imd.gov.in/>

<https://www.facebook.com/India.Meteorological.Department/>

<https://twitter.com/Indiametdept>

https://www.instagram.com/mausam_nwcf/

[https://www.youtube.com/channel/UC_qxTReoq07UUVArM87CuyQw/ featured? viewas=subscriber](https://www.youtube.com/channel/UC_qxTReoq07UUVArM87CuyQw/featured?viewas=subscriber)

<https://imdweather1875.wordpress.com/>

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MAUSAM MOBILE APP

The MAUSAM mobile app will be an important tool for dissemination of weather information and warnings in an attractive and user friendly manner which will meet the requirements of public.



The MAUSAM mobile App has the following 5 services:

Current Weather : Current temperature, humidity, wind speed, direction for 200 cities updated 8 times a day. Information on Sunrise/ sunset and moonrise/ moonset is also given.

Nowcast : Three hourly warnings of localized weather phenomena and their intensity issued for about 800 stations, and districts of India by State Meteorological Centres of IMD.

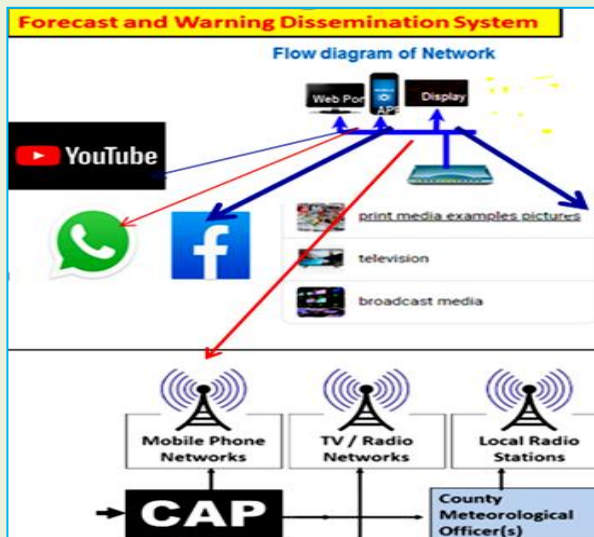
City Forecast : Past 24 hours and 7 day forecast of weather conditions around 450 cities in India.

Warnings : Alerts issued twice a day for all districts for the next five days in colour code (Red, Orange and Yellow) to warn citizens of approaching dangerous weather.

Radar products : Latest Station wise radar products.

FORECAST & WARNING DISSEMINATION OF HEAVY RAINFALL

The dissemination system of heavy Rainfall provided by IMD by Weekly video, Press release, WhatsApp Group, Website, IMD Apps like, Mausam/DAMINI/RAIN ALARM and Social Media etc. to the safety of the public.



हिंदी पखवाड़ा / हिंदी दिवस 2020

समारोह का शुभारंभ दीप प्रज्ज्वलन से हुआ। इसके पश्चात माँ सरस्वती का आशीर्वाद लेते हुए सरस्वती वंदना की गई। श्रीमती सरिता जोशी, सहायक निदेशक (राजभाषा) ने माननीय गृह मंत्री श्री अमित शाह द्वारा देशवासियों को भेजे गए संदेश को सभी को पढ़ कर सुनाया। इस समारोह के विशिष्ट अतिथि श्री बी. एल. गौड़ जी का महानिदेशक महोदय द्वारा शॉल और स्मृति चिन्ह से सम्मान किया गया।



विशिष्ट अतिथि श्री बी. एल. गौड़ जी का महानिदेशक महोदय डॉ. महापात्र शॉल द्वारा सम्मान करते हुए

इस अवसर पर विभागीय हिंदी गृह पत्रिका 'मौसम-मंजूषा' के 31^{वें} संस्करण का द्वारा विमोचन किया गया। इसके बाद हिंदी पखवाड़ा 2020 के दौरान आयोजित की गई प्रतियोगिताओं के विजेताओं को नकद पुरस्कार और प्रमाण-पत्र प्रदान किए गए।

भारत मौसम विज्ञान विभाग के विभिन्न उप कार्यालयमें भी हिंदी दिवस का आयोजन किया गया जिसमें कार्यालयों के लोगों ने बढ़ चढ़ के भाग लिया। यह कार्यक्रम निबंध, कविता और भाषण प्रतियोगिता जैसे विषयों पर आधारित रही।



एम. सी., भुवनेश्वर में हिंदी दिवस का आयोजन

INDEPENDENCE DAY

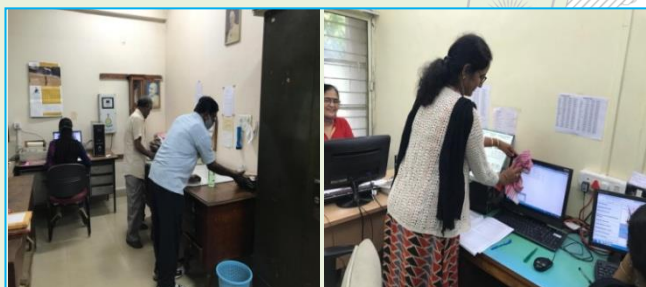
Independence Day celebrated on 15th August, 2020 at IMD, H.Q. and sub offices under protective measures like social distancing etc. have been followed during hoisting of flag and its celebration.



Independence day celebration at M. C. Ranchi

SWACHHTA PAKHWADA

Swachhta Pakhwada was observed at IMD, H. Q. and various sub-offices of IMD during 1-15 July, 2020. **Dr. Mrutyunjay Mohapatra**, DG, IMD administered the pledge on 1st July. A large number of officers and staff members of IMD made shramdaan to maintain cleanliness during the period.



Swachhata Pakhwada at M. C. Bengaluru

Important Events / Activities

Honourable Ministry of Earth Sciences tweeted about the **New Flash Flood Guidance Services** provided to South Asian countries on 27th August, 2020 and appreciated the Pre-Operational stage activities. South Asia Regional Guidance bulletins are being issued regularly Since June 2020.



Dr. Harsh Vardhan, Union Minister for Health and Family Welfare, Science and Technology, Earth Sciences and others

M. C. Ranchi is the first office in IMD which initiated online feedback mechanism from all stakeholders (Press, Electronics Media, and State Govt. Departments etc.) through Google form. The Report of this Feedback was widely appreciated throughout IMD.

IMD as Regional Center of SAsiaFFGS attended 1st FFGS Regional Centers' Teleconference organized by WMO for discussing the recent FFGS activities, FFGS Sustainability Strategy and steps forward on 5th August, 2020.

Infrastructure Development and Installation

On the request of **North West Railways Ajmer Division** for establishment of **Wind Systems at 19 locations on Ajmer-Palanpur section**, in view of the problem being faced in train operations especially during high winds, necessary approval for installation of wind systems at 19 locations on Ajmer-Palanpur stretch with a total estimated expenditure of Rs.24,81,528/- has been obtained from MoES on 16th July, 2020. **This will provide IMD an opportunity to pilot the provision of weather services to Indian Railways for safety of operations.**



A new **data logger and Radiation Sensors** installed successfully and shifted whole system to new site except Solar tracker, System put in operational w.e.f. 21st September, 2020 at **M. C., Ahmedabad** by M/S Meatech Solution, Gurgaon.

Hardware Site Acceptance Test (SAT) of **MMDRPS** has been conducted w.e.f. 10-18 September, 2020 in **virtual mode** and **Site Acceptance Test (SAT)** of **software component** is in progress since 24th September, 2020.

M. C. Ahmedabad revived **ARG and AWS at Ahmedabad with new Cellcomm data logger** on 25th August, 2020. **ARG Dehgam** on 22nd September, 2020, **ARG Virangam** on 28th September, 2020 and **AWS Surandranagar** on 24th September, 2020 with new cellcomm data logger.

HWSR System installed at **M. C. Bhubaneswar, DWR Paradip and M. O. Puri** during September, 2020.

A new **observatory at PTO, Chaibasa** has been Installed at **M. C. Ranchi** during September, 2020.

Memorandum of Understanding

Boomipooja for installation of **X-Band Radar at Chennai** was performed on 23rd September, 2020 at National Institute of Ocean Technology premises. **MOU got signed between IMD and NIOT** on 28th September, 2020. Installation of X-Band Polarimetric Radar at NIOT premises is in progress.

MoU between Earth System Science Organization-India Meteorological Department (ESSO-IMD) and Power System Operation Corporation Ltd. (POSOCO) dated 18th May, 2015 in respect of "**Use of weather information for better management of Indian Power System**" has been extended for a further period of 1 year. Addendum to the existing MoU has been signed between **IMD and POSOCO**.

Human Resource Development Activities

PANEL DISCUSSION

Dr. M. Mohapatra, DG, IMD attended **“Governance Now Tech Innovations in Disaster Management Virtual Summit 2020”** as a Key Speaker on 9th July, 2020.

Dr. M. Mohapatra, DG, IMD participated in the Panel Discussion on **“Science, Technology, and Innovation Policy”**, under India’s 5th Science, Technology and Innovation Policy (STIP 2020) on 11th July, 2020 organized by STIP 2020.

Dr. S. D. Attri, Sc. ‘G’ chaired Webex meetings for finalising training / feedback aspects on **“Automation of Agromet Advisory for SMS (Agromet) of DAMUs on AGRIMET-DSS”** on 11th July, 2020 organized by WoTR, Pune.

Dr. M. Mohapatra, DG, IMD & PR of India with WMO alongwith **Dr. Gopal Iyengar**, Sc. ‘G’, MoES, **Dr. S. D. Attri**, Sc. ‘G’ and **Dr. R. K. Giri**, Sc. ‘E’ attended **“Regional Association (RA) II Management Group Virtual Discussion Series II”** on 21st July, 2020.



Dr. M. Mohapatra, DG, IMD, Dr. Gopal Iyengar, Sc. ‘G’, Dr. S. D. Attri, Sc. ‘G’ and Dr. R. K. Giri, Sc. ‘F’

Shri C. S. Patil, Sc. ‘D’, Participated as Expert Member for **“Selection of scientists (Agro meteorology) and Agro met Observer under Grameen Mausam Seva”** Held at University of Agricultural Sciences Dharwad on 22nd September, 2020.

Dr. Geeta Agnihotri, Sc. ‘E’ participated in **“17th Session of South Asian Climate Outlook Forum and climate Services users Forum”** during 23 & 24 September, 2020.

Dr. Sanjib Bandyopadhyay, Sc. ‘F’ acted as a panellist in Valedictory session of the training programme **“Strategy for implementation of Block level Agro-Advisory”** organised by Agrimet, Pune on 30th September, 2020.

Dr. S. D. Attri, Sc. ‘G’ and **Dr. D. R. Pattatnaik**, Sc. ‘F’ attended South-West Asia Technical and Operational Coordination (SWAC-TOC) weekly meetings on **“Desert Locust Information System co-ordinated by FAO Rome and presented existing and future weather and monsoon scenario”** during July-September, 2020.



Dr. S. D. Attri, Sc. ‘G’ during FAO Locust meeting

Dr. S. D. Attri, Sc. ‘G’ delivered invited talk on **“Effect of Climate Change on Weather Parameters”** in National Webinar on **“Climate Resilience Agriculture – Opportunities and potential”** on 27th July, 2020 organised by RVSKVV, Gwalior.

Dr. S. D. Attri, Sc. ‘G’ delivered talk on **“Automation of Agromet Advisories-Data Requirements, Agromet-DSS software and Customization”** in training programmes for SMS (Agromet) / Observers of DAMUs on 29th July, 2020 organised by IMD and ATARI Pune.

Dr. M. Mohapatra, DG, IMD attended as a Panellist in **“VAIBHAV Summit on Earth Science Vertical and Atmospheric Science Horizontal”** organized by IITM, Pune on 9th September, 2020.

Shri Anand Shankar, Sc. ‘C’ participated in the inaugural ceremony of the Meghdoot Scheme of Department of Agriculture, Govt. of Bihar in which crop of IMD was disseminated through **“SMS by Govt. of Bihar on the pilot basis for the districts - Nalanda, East Champaran and Supul”** on 16th September, 2020.

TRAINING

Online IT and Administration training under the **South Asia Flash Flood Guidance system (SAsiaFFGS)** imparted by WMO and HRC to 15 participants at **Regional Centre, IMD Pune** during 17th June - 10th July, 2020.



Inaugural Training Session of SAsiaFFGS



Hydromet Division, India Meteorological Department organized an online training workshop on **operational Activities of Flood Meteorological Services** with all RMCs, MCs, FMOs, CRS Pune and NWFC during 1-2 July, 2020. **Dr. M. Mohapatra**, DG, IMD Chaired inaugural session of online training programme for FMOs on 1st July. Distinguished scientists from various organizations presented about their role in flood monitoring related aspects. The training ended with discussion session on issuance of Hydromet Bulletin. The training recorded wide participation of 75 officers and staff from 40 offices of IMD across India.

SOUTH ASIA FLASH FLOOD GUIDANCE SERVICES

IMD, Regional Centre of **South Asia Flash Flood Guidance System (SAFFGS)**, conducted an online training on flash flood guidance system from 8-10 July, 2020 for 150 forecasters from India, Bhutan, Bangladesh, Nepal, Sri Lanka, WMO and HRC, USA. **Dr. M. Mohapatra**, DG, IMD chaired the concluding session of operational SAFFGS on 10th July, 2020.

WMO appreciated Regional Centre (SASIAFFGS) & Hydromet Division for organising International Operational SAsiaFFGS training for forecasters of about 150 trainees across the region from India, Bangladesh, Nepal, Bhutan, Sri Lanka, WMO and HRC, USA held during 8 to 10th July, 2020. The event gathered a wide publicity on WMO's official website, social media platforms, etc and gave awareness in the region.

A short term online Training Course on **"Preparation and Dissemination of Agromet Advisories at Block level under Gramin Krishi Mausam Seva (GKMS) scheme"** was organized during 27 July - 1 August, 2020 for Subject Matter Specialists (Agromet) & Observers of 25 District Agro. Met Units (DAMU).

Dr. Geeta Agnihotri, Sc. 'E' and **Shri S. M. Metri**, Sc. 'E', VC in **"Maintenance of AWS ARG in Karnataka"** on line training 28th August, 2020.

WEBINAR

Dr. M. Rajeevan, Secretary MoES and **Dr. Mrutyunjay Mohapatra**, DG, IMD and **Dr. Soma Sen Roy**, Sc. 'F' participated in webinar on **"Thunderstorm and Lightning"** was organized by NIDM on 14th July, 2020.

Shri B. P. Yadav, Sc. 'F' and **Dr. R. Jenamani**, Sc. 'F' participated in the webinar series jointly by NDMA & IMD on **"Cloud burst & Heavy Rainfall Hydromet system for flood forecast"** on 21st July 2020.

Dr. Jayanta Sarkar, Sc. 'F' and **Dr. (Smt.) Manorama Mohanty**, Sc. 'E' attended Webinar on **"User workshop on Weather and climate services for Agriculture, Gujarat"** on 23rd July, 2020 which was jointly organised by **M. C. Ahmedabad** and **Agriculture Department, Govt. of Gujarat**. **Dr. (Smt.) Manorama Mohanty**, Sc. 'E' delivered presentation in the webinar on **"Weather and Climate services for Agriculture"**.

Dr. M. Mohapatra, DG, IMD attended Inaugural Function of the Webinar on **"Recent Developments and Challenges in Weather and Climate-Indian Perspective (10-25 August, 2020)"** on 10th August, 2020 as a distinguished Guest. The webinar was organized by Andhra University.

Shri Deepak Kumar Singh, S. A. participated in a webinar on **"IoT Security (WISE)"** organized by C-DAC, Hyderabad and SETS, Chennai during 28-29 August, 2020.

Dr. Sanjib Bandyopadhyay, Sc. 'F', participated at the webinar on **"Climate Change Impact and Adaptive Strategies"** organized by Department of Geography Sivanath Sastri College, Kolkata on 15th September, 2020.

Shri V. H. Arun Kumar, Sc. 'C' attended a zoom webinar hosted by World Meteorological Organization on **"CAP implementation workshop and training"** from 28th to 30th September, 2020.

LECTURES/TALK

Shri B. P. Yadav, Sc. 'F' delivered a lecture on **"Cloudburst and Floods"** on 21st July, 2020 organized by NIDM.

Dr. D. R. Pattanaik, Sc. 'F' delivered an invited talk on **"Climate Change and Extreme Weather Events"** to the trainees during the webinar series jointly organised by National Institute of Disaster Management (NIDM) and India meteorological Department (IMD) on 4th August, 2020.



Dr. D. R. Pattanaik, Sc. 'F' during an invited talk

Dr. Sanjib Bandyopadhyay, Sc. 'F' inaugurated and delivered a lecture in a training programme to the officers of GSI Kolkata on **"Early Warning System in vogue in IMD forecast procedure, heavy rainfall warning particularly in North Bengal leading to landslides"** held on 24th and 25th August, 2020 at RMC Kolkata. The training programme was held on a request by GSI Kolkata as on a pilot mode. **Dr. G. K. Das**, Sc. 'E' also delivered lecture on **"Technique for weather forecasting and its limitations"**.

Shri Debapriya Roy, Sc. 'C' and **Shri Sukumar Roy**, Met. 'A' gave talks/lectures related to **"Weather forecasting procedures and Usefulness of Damini App. & Impact of lightning and thunderstorm"** to farmers respectively in an online Farmer's Awareness Programme in **Google Meet** which was organized by AMFU Kalyani on 5th September, 2020.



Dr. S. D. Attri, Sc. 'G' delivered invited talk on **"Climate Change and Technological Interventions under Current Scenario"** in FDP on 8th September, 2020 organised by J. C. Bose University of Science & Technology, YMCA.

Dr. M. Mohapatra, DG, IMD delivered a talk on **"Cyclone warning services in a Teachers' Training programme"** organized by NIDM through VC on 22nd September, 2020.



Dr. M. Mohapatra, DG, IMD and senior officers of IMD

WORKSHOP

Shri Sukumar Roy, Met. 'A' co-ordinated and attended an online workshop of **"DAMUs of West Bengal and Odisha"** which was organized by ATARI Kolkata on 21st July, 2020.

Shri Raja Acharya, Met. 'A' attended a virtual workshop on **"Ocean Best Practices System (OBPS) Workshop IV"** organised by the IOC (Intergovernmental Oceanographic Commission) on 18, 21-25, 30 September, 2020.

Shri K. Raja, Met. 'B' attended Annual Review workshop of **"DAMU, KVKS"** conducted online by ATARI, Hyderabad on 23rd September, 2020.

Shri B. P. Yadav, Sc. 'F' participated in Common Alert Protocol (CAP) Implementation Workshop 2020 for **"Emergency alerting mechanism"** of disasters on 28th September, 2020.

Dr. G. N. Raha, Sc. 'E', attended Stakeholders' workshop online through Zoom on 30th September, 2020 conducted by IRADe with support from Ministry of Environment, Forests & Climate Change (MoEFCC) under National Mission on Himalayan Studies aims to **"Develop Disaster Resilience Action Plan for Gangtok city"**.

MEETINGS / VIDEO CONFERENCES MEETINGS

Dr. M. Mohapatra, DG, IMD attended meeting under Chairmanship of Secretary, MoES on **"NWP Model Development Roadmap"** through VC on 2nd July, 2020.

Dr. M. Mohapatra, DG, IMD and **Dr. Soma Sen Roy**, Sc. 'F' attended a meeting at NDMA to review the **"Preparedness for Thunderstorm and lightning with the state's most affected by Thunderstorms and Lightning"** under chairmanship of Lt. Gen, Ata Hasnain on 3rd July 2020.

Dr. H. R. Biswas, Sc. 'E' attended the meeting through Web Based Video Conferencing with State Government to monitor **"Drought Parameter"** on 3rd July, 2020.

Dr. M. Mohapatra, DG, IMD and **Shri B. P. Yadav**, Sc. 'F' attended meeting chaired by **Hon'ble Home Minister** regarding Review of **"Preparedness measure to deal with flood situation in major flood prone river basin in the country"** at MHA, North Block, New Delhi on 3rd July, 2020.

Shri B. P. Yadav, Sc. 'F' attended a High level Meeting called by **Hon'ble Home Minister** to discuss **"Rainfall forecast over major river basins for flood management"** on 3rd July, 2020.

Dr. M. Mohapatra, DG, IMD alongwith other senior officers of IMD attended meeting chaired by **Shri G. V. V. Sarma**, Member Secretary, NDMA through VC to review the **"Progress of project on Urban Flood Early Warning in Guwahati Town and proposed actions by TERI"** on 7th July, 2020.

Dr. M. Mohapatra, DG, IMD chaired the meeting on **"Development of roadmap for implementation of Decision Support System for Early Warning of Severe Weather"** in collaboration with RIMES on 8th July, 2020.

Dr. M. Mohapatra, DG, IMD assumed the charge of **"President of New National Council of Indian Meteorological Society"** on 10th July, 2020.

Dr. M. Mohapatra, DG, IMD alongwith other senior officers attended meeting under chairmanship of **Dr. M. Rajeevan**, Secretary, MoES to discuss about **"Establishment of a Centre in Dharwad"** on 13th July, 2020.

Dr. M. Mohapatra, DG, IMD attended the meeting of Expert Committee on **"Heat Wave to review Heat Wave Season 2020"** through VC on 13th July, 2020.

Shri C. S. Patil, Sc. 'D' attended the meeting of **"Weather watch Committee"** through Video Conference on 14th July, 2020 under the Chairmanship of Additional Chief Secretary Cum development Commissioner, Govt. of Karnataka, Vidhan Soudha Bangalore.

Dr. S. Balachandran, Sc. 'F' participated in the **"Pre - NE Monsoon Preparedness meeting 2020"** convened by Special Officer / Commissioner, Greater Chennai Corporation, on 15th July, 2020 at Chennai Corporation.

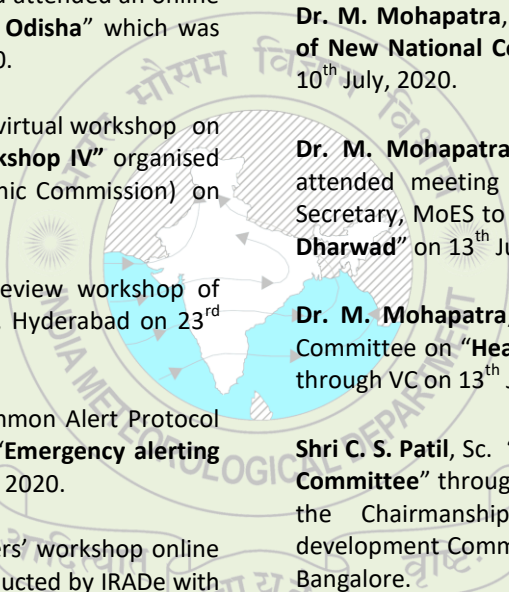
Dr. M. Mohapatra, DG, IMD and **Dr. S. D. Attri**, Sc. 'G' attended meeting on **"Measures to be taken to deal with possible global catastrophe"** organized by NDMA on 16th July, 2020.

Dr. Ashok Kumar Das, Sc. 'E' and **Shri Asok Raja**, Sc. 'C' participated through video conferencing in the 4th quarterly inter-ministerial meeting on **"BRTMS"** on 17th July, 2020.

Dr. M. Mohapatra, DG, IMD and **Dr. Soma Sen Roy**, Sc. 'F' attended First Meeting of the Expert Group organized by NDMA to implement the Action Plan on **"Thunderstorm & Lightning"** on 20th July, 2020.



सत्यमेव जयते



Dr. H. R. Biswas, Sc. 'E' attended the **"Crop Weather Watch Group Committee Meeting"** through Microsoft Teams by Video Conferencing under the Chairmanship of Agriculture Production Commissioner, Odisha on 20th July, 2020.

Dr. Sanjib Bandyopadhyay, Sc. 'F' attended review meeting of **"GKMS Project and delivered Remarks on Technical Session"** through video conference on 21st July, 2020.

Dr. Sanjib Bandyopadhyay, Sc. 'F' attended the **"Monsoon Preparedness Review Meeting - 2020"** at the Department of Disaster Management & Civil Defence, Government of West Bengal on 21st July, 2020.

Dr. M. Mohapatra, DG, IMD chaired Meeting with Regional Integrated Multi-Hazard Early Warning System (RIMES) to discuss about **"Development of DSS for the State with the help of RIMES and IMD"** on 3rd August, 2020.

Dr. Geeta Agnihotri, Sc. 'E' attended through VC meeting with RIMES team regarding **"Establishment of DSS in different states"** on 3rd August, 2020.

Dr. H. R. Biswas, Sc. 'E', attended the **"Crop Weather Watch Group Committee Meeting"** at Krushi Bhawan, Department of Agriculture and Farmer's Empowerment, Government of Odisha on 4th August, 2020.

Dr. M. Mohapatra, DG, IMD chaired meeting to discuss Research/Project Problem on **"AI-ML (Artificial Intelligence-Machine Learning)"** in collaboration with IIT, Vadodara on 6th August, 2000.

Dr. M. Mohapatra, DG, IMD alongwith other senior officers chaired a meeting with IIT, Delhi and Central water Commission to discuss about **"Brahmaputra River Monitoring in Tibet Autonomous Region"** on 7th August, 2020.

Dr. Geeta Agnihotri, Sc. 'E' and **Dr. Rajavel Manickam**, Sc. 'E', meeting with Head Agromet, IMD, New Delhi regarding **"Functioning of North Karnataka Agro-meteorological Research and Forecasting Centre Dharwad"** on 8th August, 2020.

Dr. M. Mohapatra, DG, IMD attended a review meeting through VC on the **"Situation of flood and flood management in the country"** under Chairmanship of Hon'ble Prime Minister of India on 10th August, 2020. Hon'ble PM appreciated the joint effort of IMD and CWC in providing the warning for floods.

Dr. M. Mohapatra, DG, IMD chaired meeting with Regional Integrated Multi-Hazard Early Warning System (RIMES) to discuss about **"Development of DSS"** for the states with the help of RIMES and IMD on 13th August, 2020.

Dr. M. Mohapatra, DG, IMD attended meeting through VC on **"Outcome Document"** with Niti Aayog on 21st August, 2020.

Dr. M. Mohapatra, DG, IMD co-chaired Skype meeting on **"Weather and Climate Science for Service Partnership (WCSSP)"** India Executive Committee on 24th August, 2020.

Shri B. P. Yadav, Sc. 'F', **Dr. Ashok Kr. Das**, Sc. 'E' and **Shri Asok Raja**, Sc. 'C' attended **"Quarterly Inter-ministerial meeting on Brahmaputra Real-time Monitoring System (BRTMS) project"** with Member (RM), CWC on 24th August, 2020.

Dr. M. Mohapatra, DG, IMD, **Shri Virendra Singh**, Sc. 'F', **Dr. Suman Goyal**, Sc. 'F' and **Dr. A. K. Mitra**, Sc. 'E' attended the **"48th Plenary Session of Coordination Group for Meteorological Satellites (CGMS)"** on 25-26 August, 2020.

Dr. Rajavel Manickam, Sc. 'E' attended through VC in Member of Selection committee for conducting interview for subject matter specialist and Agromet observer under **"DAMU project in KVK Gadag"** on 28th August, 2020.

Dr. Jayanta Sarkar, Sc. 'F' had a meeting with Chief Secretary, Government of Gujarat on 31st August, 2020 at Gandhinagar and made presentation on **"Active wet spell over Gujarat"**.

Shri B. P. Yadav, Sc. 'F', **Shri Rahul Saxena**, Sc. 'F' and **Dr. Ashok Kr. Das**, Sc. 'E' attended ACROSS Project Coordinators Meeting with Secretary, MoES for **"Implementation of project activities in pipeline"** on 2nd September, 2020.

Hydromet Division organized a video conference with SAsiaFFGS member countries and WMO on 3rd September, 2020 for discussing the recent **"FFGS activities and FFGS Sustainability Strategy"**.

Dr. M. Mohapatra, DG, IMD, senior officers of IMD attended meeting with Chief Managing Director of Power System Operation Corporation Limited (POSOCO) through VC on 4th September, 2020 regarding **"Augmentation of weather services to power sector"**.

Dr. S. D. Attri, Sc. 'G' attended meeting of **"Recruitment Committee for selection of SMS (Agromet) and Agromet observer for Professor Jayashankar Telangana State Agricultural University, Hyderabad"** on 5th September, 2020.

Dr. M. Mohapatra, DG, IMD and **Shri B. P. Yadav**, Sc. 'F' attended 6th meeting of the expert Committee of Ministry of Water Resources for **"Scientific Assessment of Flood Prone Area in India"** through VC on 8th September, 2020.

Dr. M. Mohapatra, DG, IMD attended **"8th Scientific Review and Monitoring Committee meeting of Monsoon Mission - II"** organized by IITM, Pune through Video Conference on 9th September, 2020.

Dr. M. Mohapatra, DG, IMD attended Review Meeting under the Chairmanship of Member Secretary, NDMA on **"Web-DCRA & DSS Tool"** on 15th September, 2020.

Shri B. P. Yadav, Sc. 'F' attended 1st Technical Subcommittee meeting on Revamped Guidelines of Pradhan Mantri Fasal Bima Yojana (PMFBY) for **"Implementation of two step Crop Yield Estimation process for Rabi 2020-21"** on 17th September, 2020.



Dr. M. Mohapatra, DG, IMD attended meeting through VC under the chairmanship of **Shri Kamal Kishore**, Member, NDMA to discuss about way forward on the decision taken in the meeting of Expert Committee on **“Heat Wave regarding hazard analysis by including night temperature and wind direction”** on 21st September, 2020.

Ms. Jyoti Arora, Spl. Secretary & Financial Advisor, **Shri Nalin Kumar Srivastava**, Director Finance, IMD and **Dr. S. I. Laskar**, FO, IMD attended **“Virtual meeting of the Financial Advisory Committee (FINAC-39)”** on 24-25 September, 2020.

Dr. S. D. Attri, Sc. ‘G’ attended meeting on **“Flood Forecasting and Early Warning System of Kolkata”** on 25th September, 2020.

Dr. G. K. Das, Sc. ‘E’ attended a meeting with Principal Disaster Secretary, Disaster Management, and Government of West Bengal on 26th September, 2020 regarding **“Monsoon rainfall status in West Bengal”**.

Dr. M. Mohapatra, DG, IMD, **Dr. S. D. Attri**, Sc. ‘G’, **Dr. Pulak Guhathakurta**, Sc. ‘F’, **Shri B. P. Yadav**, Sc. ‘F’, **Dr. D. R. Pattaniak**, Sc. ‘F’ and **Dr. R. K. Giri**, Sc. ‘E’ attended the **“Seventy-second (72th) Session (Virtual) of the Executive Council (EC-72)”** during 28 September - 2 October, 2020.

PRESENTATION

Dr. M. Mohapatra, DG, IMD made a presentation to **Hon'ble Minister of Science & Technology and Earth Sciences** on **“Procurement of Automated Weather Observing System (AWOS) at 18 Airports”** on 21st August, 2020.

Shri Ranjan Phukan, Sc. ‘C’ presented a paper titled **“Climate variability and changes over Tripura”** in the International Seminar on Rural Development in Asia Pacific Region, Special reference to North-East India and its Bordering countries, on 25th August 2020.

Dr. M. Mohapatra, DG, IMD made presentation at MoES before **Hon'ble Minister of S&T and Earth Sciences** regarding **“Monsoon 2020 Status, Forecast for next 1 month and Flood Situation in the country”** on 27th August, 2020.

Shri Vigin Lal F., Sc. ‘C’ made an on line presentation on **“Early Warning Mechanism”** in IMD to Gujarat based NGO-SEWA and its members 4th September, 2020.

Shri B. P. Yadav, Sc. ‘F’ presented the current status of **“CRIS 1.0 and its Upgradation to CRIS 2.0”** to Secretary, MoES in presence of **Dr. Kamaljith Ray**, Advisor (IMD), DGM along with officials of Hydromet Division on 14th September, 2020.

OUTREACH PROGRAMME

Shri S. Balamourougane, S.A. presented a poster titled **“Photovoltaic application alternate source of load energy”** at VICARE, organized by Association of Global Academicians and Researchers & Association of Indian Biologists (AIB), TN on 18th July, 2020 and awarded with Best Poster Presentation Award.

Dr. G. N. Raha, Sc. ‘E’ attended State Disaster Risk Reduction Day (DDR) on an online platform, **“Google meet”** on 18th September, 2020 organised by Sikkim State Disaster Management Authority.

ONLINE INTERVIEW

Dr. V. K. Mini, Sc. ‘E’ represented IMD for conducting online interview for the **“Selection of SMS (Agrometeorology) for DAMU, KVK Ernakulam”** on 14th August, 2020.

Dr. Jayanta Sarkar, Sc. ‘F’ attended online interview for **“FASAL SRF”** conducted by Agriculture University, Junagadh, Gujarat from 1100 am to 1300 pm on 20th August, 2020.

Dr. (Mrs.) Manorama Mohanty, Sc. ‘E’ attended online interview for **“SMS (Agro-Meteorology)”** conducted by Navsari Agriculture University, Navsari on 15th September, 2020.

AWARDS & RECOGNITION/APPRECIATION

MoES AWARD 2019-2020

Dr. P. Guhathakurta, Sc. ‘F’, **Shri Sanjib Sen**, Sc. ‘F’ and **Dr. H. R. Biswas**, Sc. ‘E’ has been awarded the **Certificate of Merit** for his outstanding contributions in the field of Atmospheric Sciences in the **MoES Foundation Day-2020** function on 27th July, 2020 at Prithvi Bhavan, MoES, New Delhi.

The following **officials of IMD** have been selected by **MoES** for **Best Employee Award for the year 2019-20** to be conferred on MoES Foundation Day on 27th July, 2020. (i) **Shri Dinesh Kumar**, Met. ‘A’, ISSD, DGM's Office (ii) **Shri Kailash Mangain**, AO-III, DDO, DGM's Office (iii) **Shri Pradeep Sharma**, Met. ‘A’, NWFC, DGM's Office (iv) **Smt. Sheela Abraham**, SA, RMC Mumbai (v) **Ms. Madhuri M. Musale**, SA, CRS Pune (vi) **Shri Jawaharlal Das**, UDC, RMC, Mumbai (vii) **Shri Putul Dutta**, Mech. Gr.‘I’, RMC, Guwahati (viii) **Shri VDVR Prasad**, MTS, M.C. Hyderabad (ix) **Shri S. B. Singh**, MTS, M.C. Jaipur.

WMO appreciated the efforts and activities taken up by **India Meteorological Department to improve its Flood Meteorological Services** during this unusual Heavy Monsoon Rainfall in many parts of India and its services to South Asia under the leadership of **Dr. M. Mohapatra**, DG, IMD amid Covid-19 Pandemic crisis. IMD organised an on line training on flash flood guidance system during 8-10 Jul for forecasters of south Asia.

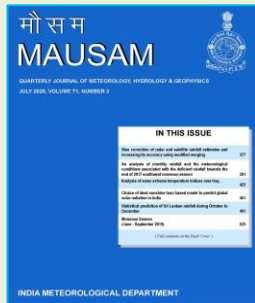
Hon'ble Chief Minister Shri Uddhavaji B. Thackeray, Govt. of Maharashtra appreciated the **Weather Services** provided by RMC, Mumbai during the Period of 3-6 August, 2020, When entire Konkan (Mah) received Extremely Heavy Rainfall including Mumbai, Thane.

Director, Directorate of Fire & Emergency Services issued a D.O. letter appreciating **Meteorological Centre, Goa** for proactive steps being taken to enhance its forecasting capabilities and also conveyed that the short term, long term warnings have helped Fire & Emergency department immensely in preparing for emerging situations and being optimum in their response towards the situations.

Raja Acharya, Met. 'A', nominated as "Ocean Expert Data Base of the Inter-Governmental Oceanographic Commission (IOC) a specialized agency of the UN". Ocean Expert is a Global directory of marine professionals. The Ocean Expert portal contains information about research materials, online conferences, webinars related to ocean science. It is the main address database of the Intergovernmental Oceanographic Commission of UNESCO. <https://oceanexpert.org/expert/20814>.

Research & Publication

Thirteen (13) research papers published in quarterly research journal MAUSAM.



Monthly weather reports for June & July, 2020 (Jharkhand) and Pre-Monsoon Report, 2020 (Jharkhand) have been prepared by M. C. Ranchi.

Cyclone e-atlas with 2019 data has been uploaded in RMC Chennai website.

Attri, S.D., 2020, "Climate Services for Managing Climate Change Impacts on Agriculture, In : Global Climate Change: Resilient and Smart Agriculture", V. Venkatraman et al. (eds.), Springer Nature Singapore Pte Ltd. 2020, 301-314 (https://doi.org/10.1007/978-981-32-9856-9_14).

Attri, S.D. and Giri, R.K., 2020, "Impact of Environmental and Climatic Factors on Monuments", *Indian Journal of Air Pollution Control*, Vol XX, No. 1-2, (March & September 2020), 8-16.

B. Geetha and S. Balachandran, "Development and Rapid Intensification of Tropical Cyclone OCKHI (2017) over the North Indian Ocean", *Journal of Atmospheric Science Research*, 3, 3, 13-22.

Bandgar, Arti, Prabhu, Pallavi, Sreejith, O. P. and Pai, D. S., "An analysis of monthly rainfall and the meteorological conditions associated with the deficient rainfall towards the end of 2017 southwest monsoon season", *Mausam*, 71, 3, 391-404.

Dey, Subhadip, Pratiher, Sawon, Mukherjee, Chanchal Kumar and Banerjee, Saon, "SolarisNet : A deep regression network for solar radiation prediction", *Mausam*, 71, 3, 443-450.

Panigrahi, Balram and Liansangpuii, Fanai, "Meteorological drought assessment using standardized precipitation index for different agro-climatic zones of Odisha", *Mausam*, 71, 3, 467-480.

Raja Acharya, "Ocean Energy and related Technological Advances", *International E-Journal Earth Science India*, 13 (II), 13-17.

Ranjan Phukan and Dilip Saha, "A case study on two severe thunderstorm events over Tripura on the same day during 13th May 2019", CDM. Lal Bahadur Shastri National Academy of Administration (LBSNAA) : Disaster : Response and Management, ISSN: 2347-2553, Volume-7 ISSUE-1, 2020.

Samanta, Suman, Banerjee, Saon, Patra, Pulak Kumar, Sekhar Maiti, Sudhansu and Chattopadhyay, Nabansu, "Choice of ideal Sunshine Hourbased model to predict global solar radiation in India", *Mausam*, 71, 451-466.

Satyanarayana, G. C., Naidu, C. V., Bhaskar Rao, D. V., Umakanth, N. and Naveena, N., "Onset of northeast monsoon over South Peninsular India", *Mausam*, 71, 503-512.

Media Interaction

Dr. M. Mohapatra, DG, IMD participated in the discussion on floods in North-Eastern states in the face of disaster on 30th August 2020. Other panelist included Le. Jan. (Retired) Syed Ata Hasnain, Member, NDMA and Dr. P. L. N. Raju, Director, NESAC. The discussion was broadcast on DD News on Sunday, the 30th August 2020.

The programme is available at the link:
<https://www.youtube.com/watch?v=fS6oM1ZBybs&feature=youtu.be>



Dr. M. Mohapatra, DG, IMD during the discussion

On 25th September, 2020, Dr. Sanjib Bandyopadhyay, Sc. 'F', RMC Kolkata participated in a Door Darshan program on Aapda Ka Saamna an episode on Cyclones, through web.

Dr. Geeta Agnihotri, Sc. 'E' about 18 and Shri C. S. Patil, Sc. 'D', answered about 460 weather Enquiries by Electronic and Print Media during the period.

VISITORS

Secenty Six (76) students of Suchitra Academy, Hyderabad, participated in virtual tour on "Weather and Climate changes" at Meteorological Centre, Hyderabad on 22nd July, 2020.

One Hundred Sixteen (116) students of Pallavi Engineering College, Ranga Reddy District, Hyderabad participated in virtual tour on "Instruments and Weather Forecasting" at M. C., Hyderabad in Cisco Webex, on 30th July, 2020.

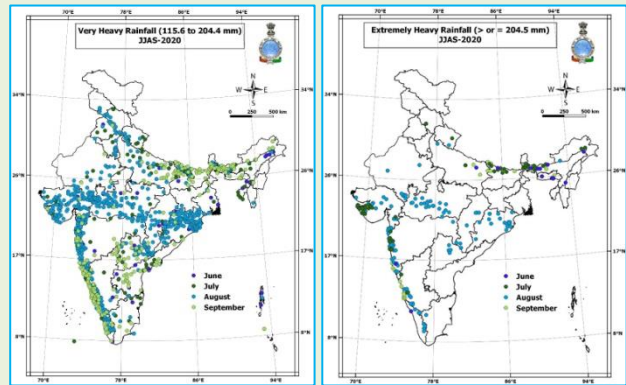
WEATHER SUMMARY

LONG RANGE FORECAST 2020

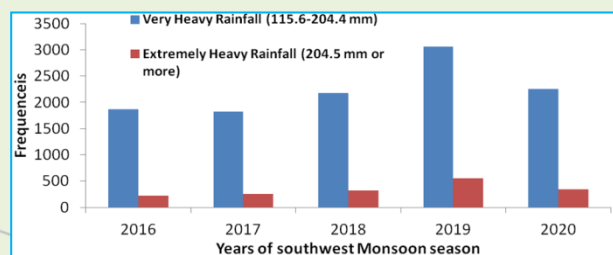
IMD issued Long Range Forecast for the Rainfall during Second Half (August-September) of the 2020 southwest monsoon on 31st July, 2020. Quantitatively, the rainfall over the country as a whole during the second half of the season is likely to be 104% of LPA with a model error of $\pm 8\%$. The rainfall during August is likely to be $97 \pm 9\%$ of LPA as was forecasted in June. The season (June to September) rainfall over the country as a whole is likely to be normal (96% -104% of LPA) as was mentioned in the updated forecast dated on 1st June.

SOUTH WEST MONSOON, 2020

Real time Rainfall statistics for the South West Monsoon, 2020 was prepared. The Rainfall for the country as a whole for the SW Monsoon period from 1st June, 2020 to 30th September, 2020 has been recorded as 957.6 mm against the normal rainfall for the period as 880.6 mm (109% of LPA). Of the 36 met subdivisions, 2 met subdivisions received rainfall in Large Excess category, 13 met subdivisions in Excess category, 16 in Normal and 05 in Deficient category. None of the met-subdivision was found to be in "Large Deficient" or "No Rain rainfall" category. The subdivision-wise, realized rainfall (mms) map and statistics for the SW-Monsoon (1 June - 30 September) 2020 are given below:

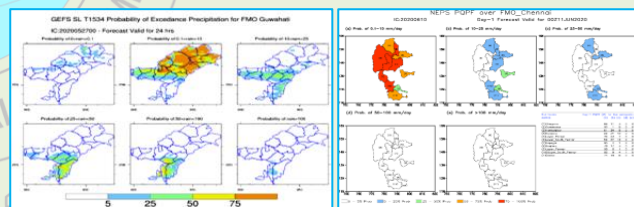


Frequencies of Very Heavy Rainfall (115.6 to 204.4 mm) and Extremely Heavy Rainfall (more than 204.4 mm) reported stations from India during SW Monsoon of 2016-2020.



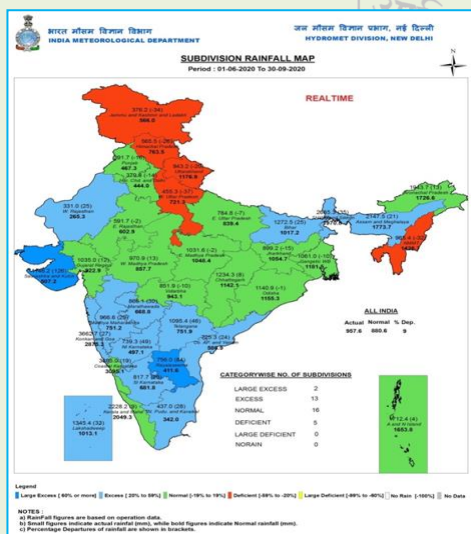
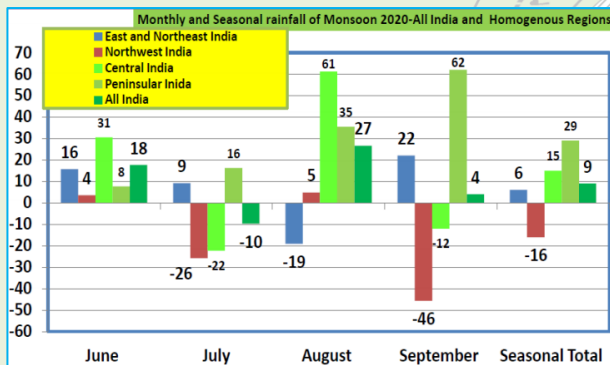
FLOOD METEOROLOGICAL SERVICES

Operational run of dynamical model GFS, MME, NCUM & WRF for estimation of sub basin wise QPF and GEFS & NEPS based Categorical Probabilistic QPF which are uploaded in IMD website. A special QPF and HM bulletin were provided operationally to Central Water Commission in respect of 10 Major river basins for flood management under the supervision of MHA.



LOW PRESSURE SYSTEM OVER NORTHWEST BAY OF BENGAL

In connection with formation of Low Pressure System (Well Marked Low Pressure Area) over northwest Bay of Bengal adjoining north Odisha and West Bengal Coast during 4th August, 2020 to 7th August, 2020, Low Pressure System over northwest and adjoining west central Bay of Bengal during 9th August, 2020 to 11th August, 2020, Low Pressure System (Well Marked Low Pressure Area) over north coastal Odisha and adjoining areas of Northwest Bay of Bengal and Gangetic West Bengal during 13th August, 2020 to 18th August, 2020, Low Pressure System (Well Marked Low Pressure Area) over northwest Bay of Bengal and neighbourhood during 19th August, 2020 to 23rd August, 2020 and Low Pressure System (Well Marked Low Pressure Area) over north Bay of Bengal and neighbourhood during 24th August, 2020 to 27th August, 2020-Continuing, Special Weather Bulletins (Informatory Messages), Press Releases, Port Warnings and Fishermen Warnings were issued to State Govt. Offices, Media and General Public and all concerned users.



The Spatial location map of Very Heavy Rainfall (115.6 to 204.4 mm) and Extremely Heavy Rainfall (more than 204.4 mm) reported station during JJAS 2020 are shown above: