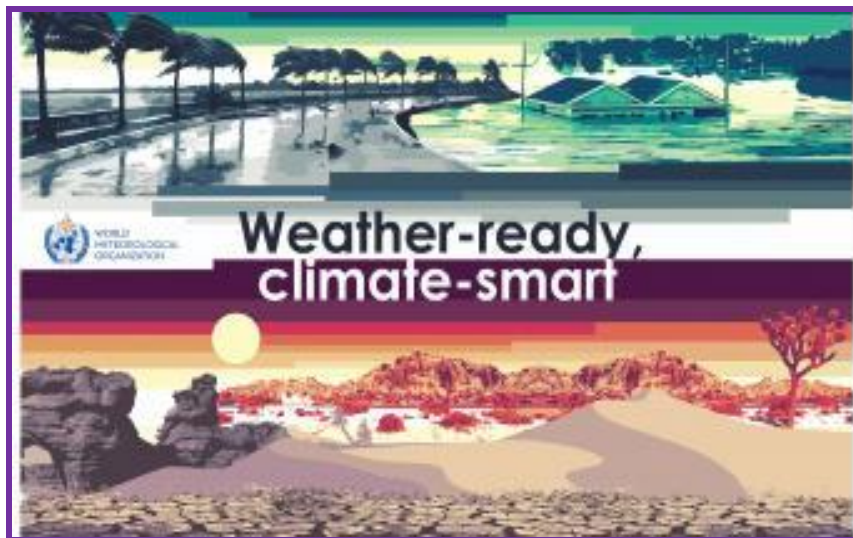




**World Meteorological Day 2018**  
**23<sup>rd</sup> March 2018**



**Mahika Hall, Prithvi Bhawan**  
**Lodi Road, New Delhi 110003**

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**Seminar 'Weather Ready, Climate Smart'**  
**Date 23<sup>rd</sup> March, 2018**  
**Venue : Mahika Hall, MoES, Lodhi Road, New Delhi**  
Tentative Programme

<b>Time</b>	<b>Programme</b>
<b>0930-0945</b>	Registration
<b>0945-1030</b>	<ul style="list-style-type: none"> <li>• <b>Welcome by Dr. D. R. Pattanaik, IMS</b></li> <li>• <b>Welcome Address by AVM(Dr) Ajit Tyagi</b></li> <li>• <b>Address by Dr Akhilesh Gupta</b></li> <li>• <b>Key Note Address on WM Day Theme: Dr K. J. Ramesh</b></li> <li>• <b>Address by Guest of Honour Shri Kamal Kishore</b></li> <li>• <b>Address by Chief Guest: Dr M. Rajeevan, Secretary, MoES</b></li> <li>• <b>Vote of thanks by Dr. V. K. Soni, IMS</b></li> </ul>
<b>1030-1055</b>	<ul style="list-style-type: none"> <li>• <b>Tribute to Late Prof T.N. Krishnamurti</b></li> <li>• <b>Release of "Memoir of Prof Krishnamurti " by Dr. M. Rajeevan, Secretary MoES</b></li> <li>• <b>Release of "Weather Ready Guide" by Shri Kamal Kishore, NDMA</b></li> <li>• <b>Release of "IMS Diamond JUbilee Directory" by Dr. K. J. Ramesh, Director General IMD</b></li> <li>• <b>(Sharing of experiences with Prof. T. N. Krishnamurti by Dr R. Krishnan, Dr. A. K. Mitra and Prof. O.P Sharma)</b></li> <li>• <b>Two minutes silence in respect of the departed soul)</b></li> <li>• <b>Release of Vayu Mandal</b></li> </ul>
<b>1055-1100</b>	Vote of Thanks
<b>1100-1115</b>	<b>Tea</b>
<b>1130-1400</b>	<b>"PANEL DISCUSSION ON CLIMATE SMART"</b> <b>Moderator - Dr. Akhilesh Gupta</b> <u><b>Panelist</b></u>  <b>Shri Kamal Kishore: (Natural Hazards)</b> <b>Dr Avinash Tyagi : (Water)</b> <b>Dr. Shibendu Ray : (Agriculture)</b> <b>Dr R.C. Dhiman : (Health)</b> <b>Dr. S. K. Singh : MNRE (Renewable Energy)</b> <b>Dr. S. D. Attri : IMD (Agriculture)</b>
<b>1400-1445</b>	<b>Lunch</b>
<b>1445-1630</b>	<ul style="list-style-type: none"> <li>• <b>Brainstorming Meeting on : Role of IMS in Meteorological Research, Education and Outreach : Way Forward (To be moderated by IMS President)</b></li> <li>• <b>Panelist : IMS Fellows, Past Presidents, DGM, IMD</b></li> <li>• <b>Concluding Ceremony</b></li> </ul>
<b>1630 -</b>	<b>Tea</b>

## Background Material

### **World Meteorological Day – 2018 “Weather Ready, Climate Smart”**

The Indian Meteorological Society (IMS) and India Meteorological Department (IMD) jointly organised the World Meteorological Day – 2018 on 23<sup>rd</sup> March, 2018. On this occasion a seminar was organised in Mahika Hall of the Ministry of Earth Science, Lodhi Road New Delhi on the theme of this year WM Day viz., “**Weather Ready, Climate Smart**”.

Members of Indian Meteorological Society (IMS), Scientists from Ministry of Earth Science (MoES), India Meteorological Department (IMD), National Centre for Medium Range Weather Forecasting (NCMRWF), Indian Institute of Technology (IIT) Delhi and many other organisations participate in this one day event.

#### **World Meteorological Day**

World Meteorological Day takes place every year on 23 March and commemorates the coming into force on 23 March 1950 of the Convention establishing the World Meteorological Organization. It showcases the essential contribution of National Meteorological and Hydrological Services to the safety and wellbeing of society and is celebrated with activities around the world. The themes chosen for World Meteorological Day reflect topical weather, climate or water-related issues.

The ever-growing global population faces a wide range of hazards such as tropical cyclone storm surges, heavy rains, heatwaves, droughts and many more. Long-term climate change is increasing the intensity and frequency of extreme weather and climate events and causing sea level rise and ocean acidification. Urbanization and the spread of megacities means that more of us are exposed and vulnerable. Now more than ever, we need to be weather-ready, climate-smart and water-wise.

#### **Weather-Ready, Climate-Smart**

“Weather-Ready, Climate-Smart” – this is the theme chosen for World Meteorological Day 2018. If we add the slogan water-wise, we complete the circle of fundamental elements that power sustainable development. All nations must become “weather-ready” and “climate-smart” – and also water-wise. This is necessary to support the international agenda on sustainable development, disaster risk reduction and climate change adaptation.

2017 was one of the three warmest years on record, and was the warmest year without an El Niño. Long-term climate change as a result of greenhouse gas emissions commit our planet to a warmer future, with more extreme weather and water shocks.

Specifically, we need to prepare for extreme weather, climate and water through better multi-hazard early warning systems and more coordinated responses. In order to facilitate this, WMO is publishing a multi-hazard early warning systems checklist as an important, practical tool to boost resilience.

National Meteorological and Hydrological Services should be able to provide accurate and timely services for all events from nowcasting to sub-seasonal and seasonal weather and longer-term climate predictions to all – from the individual, to the community, to various business sectors and policy makers – in the most easily understandable language.

Early warning systems and other disaster risk reduction measures are vital for boosting the resilience of our communities. The first step in building resilience to extreme weather and climate events is the establishment of a robust network of observations. An extensive observation network – over land, air and sea as well as out of space – is imperative to provide the data to support forecasting and early warnings for extreme weather and climate events. WMO as a community is engaged to help Members who need to upgrade their observation infrastructure, and the development of climate services offers a good opportunity to do so.

The ever-growing global population faces a wide range of hazards such as tropical cyclone storm surges, heavy rains, heatwaves, droughts and many more. Long-term climate change is increasing the intensity and frequency of extreme weather and climate events and causing sea level rise and ocean acidification. Urbanization and the spread of megacities means that more of us are exposed and vulnerable. Now more than ever, we need to be weather-ready, climate-smart and water-wise.

WMO and National Meteorological Services design operational services ranging from daily weather forecasts to long-term climate predictions that help society to be weather-ready and climate-smart. Further National Hydrological Services are essential for the sound management of fresh water resources for agriculture, industry, energy and human consumption, so that we can be water-wise. These services empower us to manage the risks and seize opportunities related to weather, climate and water.

Climate services can inform decisions on both climate change mitigation and adaptation. Hydrological monitoring increases our understanding of the water cycle and so supports water management.

## **Weather- Ready**

An early warning is a major element of disaster risk reduction. Multi-hazard early warnings simultaneously address flooding, storms and other major hazards. Long before such hazards arise, early warning projects prepare those at risk as well as those who may be involved in providing assistance so that they will be *weather-ready* when warnings sound. Impact-based early warning provide more understandable information to those that need to act on the warnings.

To be effective, early warning systems need to actively involve the people and communities at risk. Impact-based, multi-hazard early warning systems incorporate communities, political leadership, weather forecasters, disseminators of warnings, media, emergency response authorities, health facilities and recovery plans. By

ensuring strong coordination among all relevant stakeholders, they are more effective and cost-efficient than stand-alone, single-hazard systems.

### **Climate-Smart**

Developing climate services and increasing the number of professionals and students trained in meteorology and climatology is one step in creating *climate-smart* societies. In developing and emerging countries, climate data are often of poor quality and do not meet the prerequisites for the provision of climate services for decision-makers.

**Agriculture** is one of the most climate-sensitive areas. Droughts, slow onset climate events, have claimed millions of lives. Climate services and climate science form are important components of early warnings systems for famine. Agroclimatologists provide outlooks to farmers on six to eight months ahead and with shorter lead times as the seasons approach then start. Climate-smart farmers use such information to decide what seeds to plant, when best to plant, whether irrigation will be required, when best to harvest and to make other important decisions.

Climate information is essential for monitoring the success of efforts to reduce greenhouse gas emissions that contribute to climate change, as well as for promoting efforts to increase energy efficiency and to transition to a carbon-neutral economy.

### **Water-Wise**

Climate change and urbanization are leading to more water-stress and increasing the exposure of communities and assets to extreme hydrological events, such as floods and droughts. It is crucial to make early warning information and products available that can help minimize the loss of life and impact on economies. To do so, we need data on all water resources, in what quantity and quality, how variable they are, and how they will evolve in the foreseeable future. WMO helps strengthen the technical, human and institutional capabilities of its Members to enable them to independently assess their water resources and respond to the threat of floods and drought.

Coastal inundations are an increasing threat to the lives and livelihoods of people, living in low-lying, highly populated coastal areas. The management of such risk represents a great challenge to scientists – meteorologists, hydrologists and oceanographers alike – policy-makers, emergency management and for coastal planning. Operational systems for integrated coastal inundation forecasting and warning provide objective basis for coastal disaster (flooding) management that reduce losses of life, livelihood and property and enhance resilience and sustainability in *weather-ready, climate-smart, water-conscious* coastal communities.

Floods are the most common natural disaster, causing enormous loss of life and property. Flood impact records show that the number of flood fatalities is gradually decreasing, thanks in part to better early warning. But economic losses continue to increase, spurred by lack of attention to prevention, economic growth and lack of

flood sensitive land-use planning. Absolute safety from flooding is a myth but it is possible to live with floods if properly prepared. Integrating land use, water resources and risk management in river basins can help us minimize loss of life from flooding and maximize net benefits from flood plains.

Drought is a prolonged dry period in the natural climate cycle that can occur anywhere in the world. It is a slow on-set phenomenon caused by a lack of rainfall. Compounding factors, such as poverty and inappropriate land use, increase vulnerability to drought. When drought causes water and food shortages, there can be many impacts on the health of the population, which may increase morbidity and result in death. In recent years, most drought-related mortality has occurred in countries also experiencing political and civil unrest. In the period from 1970 to 2012, drought caused almost 680 000 deaths, due to the severe African droughts of 1975, 1983 and 1984.

### **Climate and Health**

Human health and the wellbeing of individuals and communities are closely linked with weather and climate conditions. Through its Members, WMO provides weather and climate services to the public health community. Furthermore, in 2014, WMO partnered with the World Health Organization (WHO) to establish a unique Joint Office for Climate and Health, located at the WMO.

### **Climate and Energy**

Climate services for health are an emerging technical field for both the health and climate communities. The Climate Services for Health Case Study Project showcases 40 examples that can help readers better understand what, how, and why health tailored climate services can support health solutions to managing climate risks. The publication presents a common framework for developing climate services for health, and highlights common needs and good practices.

Energy systems are the engine of economic and social development. Their investments represent a sizeable portion of a country's GDP. Indeed, energy is essential to practically all aspects of human welfare, including access to water, agricultural productivity, health care, education, job creation and environmental sustainability.

Energy planning and operations in general are markedly affected by meteorological events. Although this is certainly the case for renewable sources such as wind, solar and hydropower and for electrical distribution and transmission systems, the more traditional energy sources can also be severely impacted by extreme weather climate events. Thus, by properly taking into account weather and climate information, energy systems can considerably improve their resilience to weather extremes, climate variability and change. Climate services can also support increased development and use of renewable energy sources.

The Global Framework for Climate Services (GFCS) has developed a strategy for improving climate services for the energy sector and providing decision-makers with enhanced tools and systems to analyse and manage risks, under current hydro-

meteorological conditions, as well as in the face of climatic variability and change. Approved by the World Meteorological Congress in June 2015, Energy is a new priority area of the GFCS in addition to health, water, disaster risk reduction (DRR) and food security and agriculture. The strategy illustrates a vision of how the development and application of targeted climate products and services through the GFCS can help improve efficiency and reduce risk associated with hydro-meteorological hazards affecting energy systems, in particular to support:

- Greater climate resilience and adaptation across the sector, due to its fundamental importance for development;
- Efficiency and reduction of energy consumption with consequent emissions reduction in support of mitigation targets; and
- The growing renewables sub-sector, given the apparent climate sensitivity of renewables on the one hand and the policy priority accorded to them due to their GHG emissions reduction benefits on the other



## OPENING CEREMONY

The Indian Meteorological Society and India Meteorological Department jointly organised the World Meteorological Day – 2018 on 23<sup>rd</sup> March, 2018. On this occasion a seminar was organised in Mahika Hall of the Ministry of Earth Science, Lodhi Road New Delhi on the theme of this year WM Day viz., “**Weather Ready, Climate Smart**”. Members of Indian Meteorological Society (IMS), Scientists from Ministry of Earth Science (MoES), India Meteorological Department (IMD), National Centre for Medium Range Weather Forecasting (NCMRWF), Indian Institute of Technology (IIT) Delhi and from many other organisations participated in this one day event.

**Dr. M Rajeevan**, Secretary, Ministry of Earth Sciences, Chairman, Earth System Science Organisation was the Chief Guest on this occasion. **Shri Kamal Kishore**, Member, National Disaster Management Authority was the Guest of Honour on this occasion. **AVM (Dr.) Ajit Tyagi**, President, Indian Meteorological Society; **Dr. K. J. Ramesh**, Director General of Meteorology, IMD and **Dr. Akhilesh Gupta** Advisor, Department of Science and Technology were the other dignitaries present in the opening ceremony.

**Dr. D. R. Pattanaik, the Organising Secretary** of the event and the member of IMS started the proceedings and briefed the members about the theme of this one day seminar on the occasion of WM Day. He formally invited the distinguished invited guests of the inaugural function to take the seat in the stage.

**Dr. Ajit Tyagi, President, IMS delivered** the formal welcome address. He also briefed the audience about the ongoing and proposed activities of the IMS.

**Shri Kamal Kishore**, Member, National Disaster Management Authority talked about the forecast and warning services provided by IMD for the disaster managers to minimize the adverse impact of severe weather.

**Dr. K. J. Ramesh** delivered the key note address. He highlighted the priority of IMD in providing better forecast and warning services to the users. He also elaborated on the ongoing plan of IMD towards the improvement in observation and modelling to fulfil the growing demands of users for better forecasts and warnings at smaller spatial scales.

**Dr. M. Rajeevan**, highlighted the progress made by IMD with the contributions from other MoES organisations like IITM, NCMRWF and INCOIS in providing improved weather forecast and warning services starting from Nowcasting, short range, medium range to extended range time scale. He also appreciated the work done by IMS in recent time. He also assured full support from the ministry to IMS to carry out this work in future.

**Dr. Akhilesh Gupta**, Advisor, Department of Science and Technology talked about the theme of WM day “Climate Smart” and also the ongoing programmes of DST in this regard.

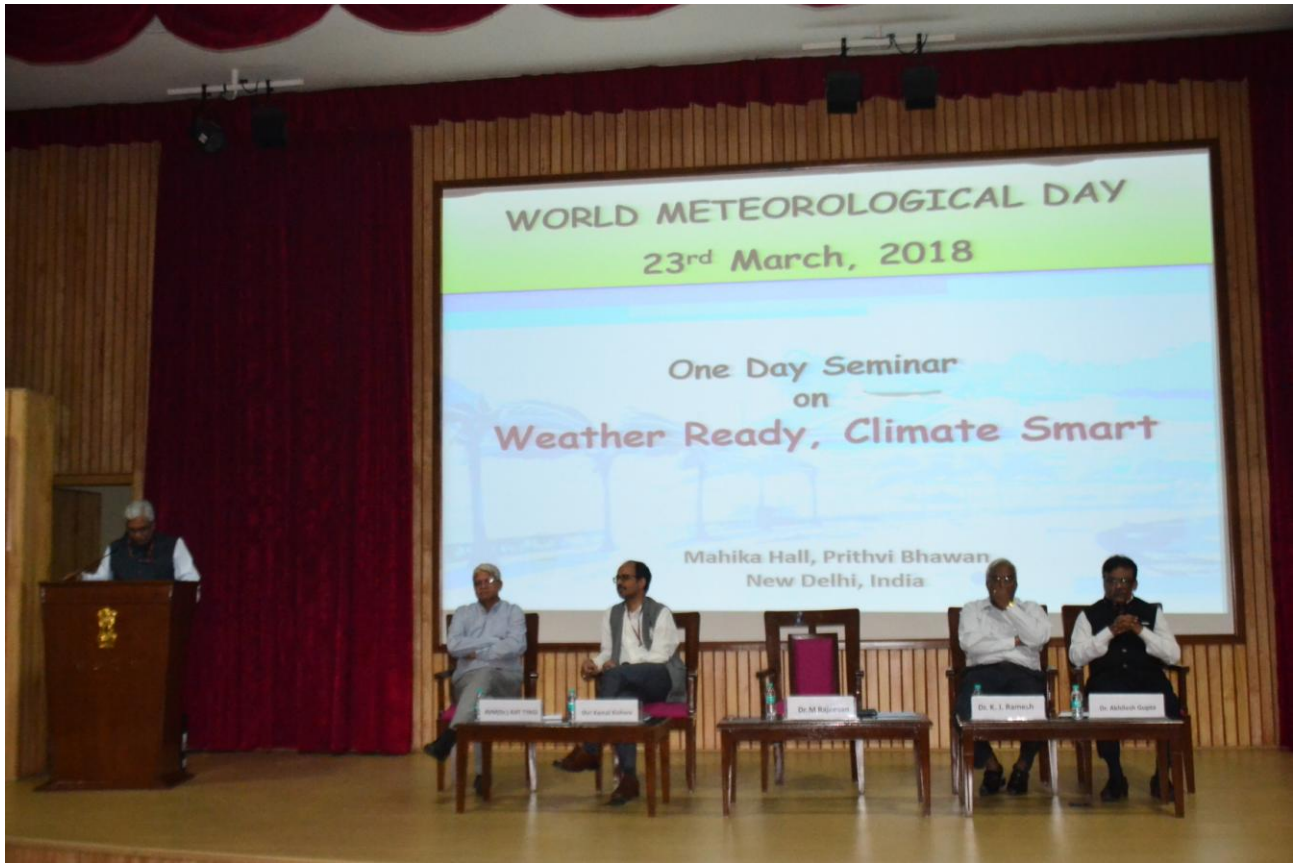
**Dr. V. K. Soni**, offered the formal vote of thanks.



(Opening ceremony of the one day event)



(Address by Dr. Ajit Tyagi, President IMS)



**(Dr. M. Rajeevan, addressing the audience during the event)**



**(Address by Dr. K. J. Ramesh, DG IMD)**



**(Address by Shri Kamal Kishore, Member, NDMA)**



**(Address by Dr. Akhilesh Gupta, DST)**

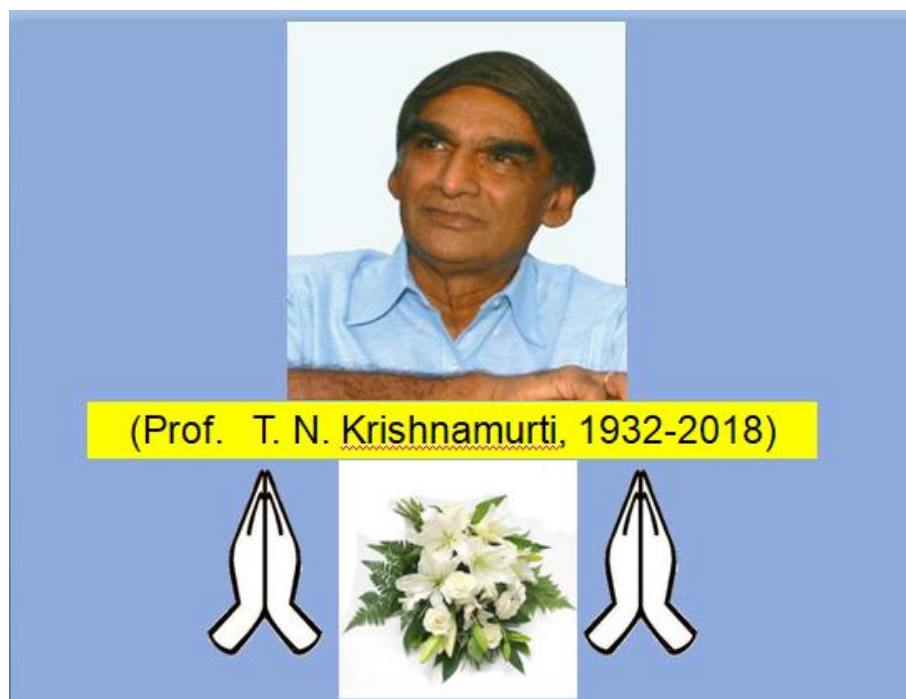
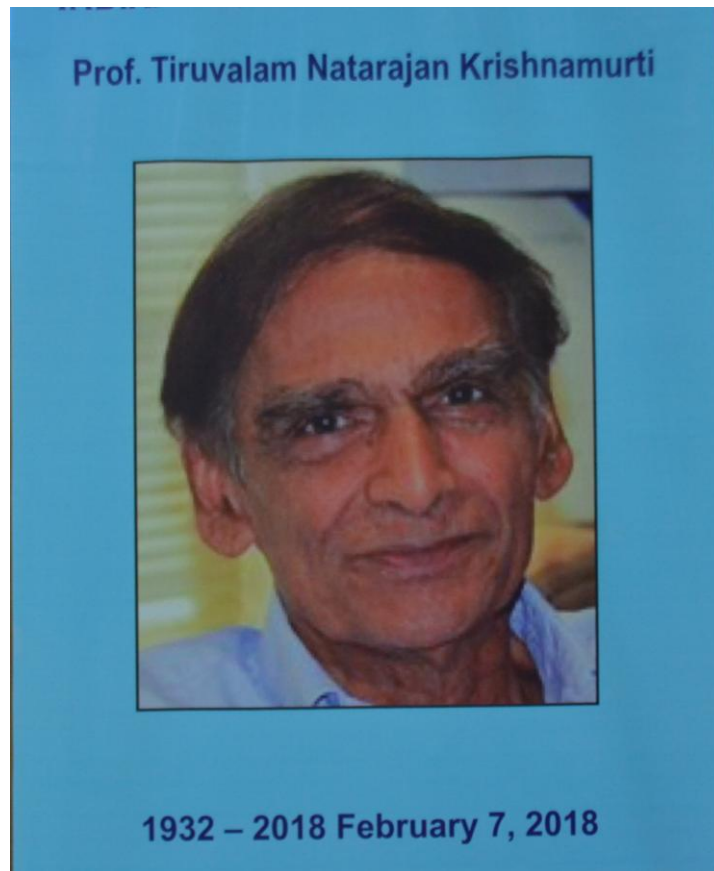


**(Address by Dr. D. R. Pattanaik, IMS)**



**Release of Bulletin of Indian Meteorological Society, Vayu Mandal**

**(Tribute to Prof. T N Krishnamurti)**



**(Tribute to Prof. T N Krishnamurti)**

**Release of "Memoirs" of  
Prof. T. N. Krishnamurti**  
By  
**Dr. M. Rajeevan, Secretary, MoES**



(e-version)

23 Mar 2018

**(T. N. Krishnamurti, 1932-2018)**

भारतीय मौसम विज्ञान सौसाइटी  
**Indian Meteorological Society**





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भारतीय मौसम विज्ञान सौसाइटी  
**Indian Meteorological Society**

Dr. M. Rajeevan      Dr. K. J. Ramesh      Dr. Akhilesh Gupta





# Weather Ready Guide

**Release of e-version  
23 March 2018**

**By  
Shri. Kamal Kishore, NDMA**

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भारतीय मौसम विज्ञान सौसाईटी  
Indian Meteorological Society



**IMS  
Diamond Jubilee Directory**

**Release of e-version  
23 March 2018  
By  
Dr. K. J. Ramesh, DG IMD**

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Indian Meteorological Society

# PANEL DISCUSSION



## INDIAN METEOROLOGICAL SOCIETY

### World Meteorological Day celebration

On Friday the 23<sup>rd</sup> March 2018

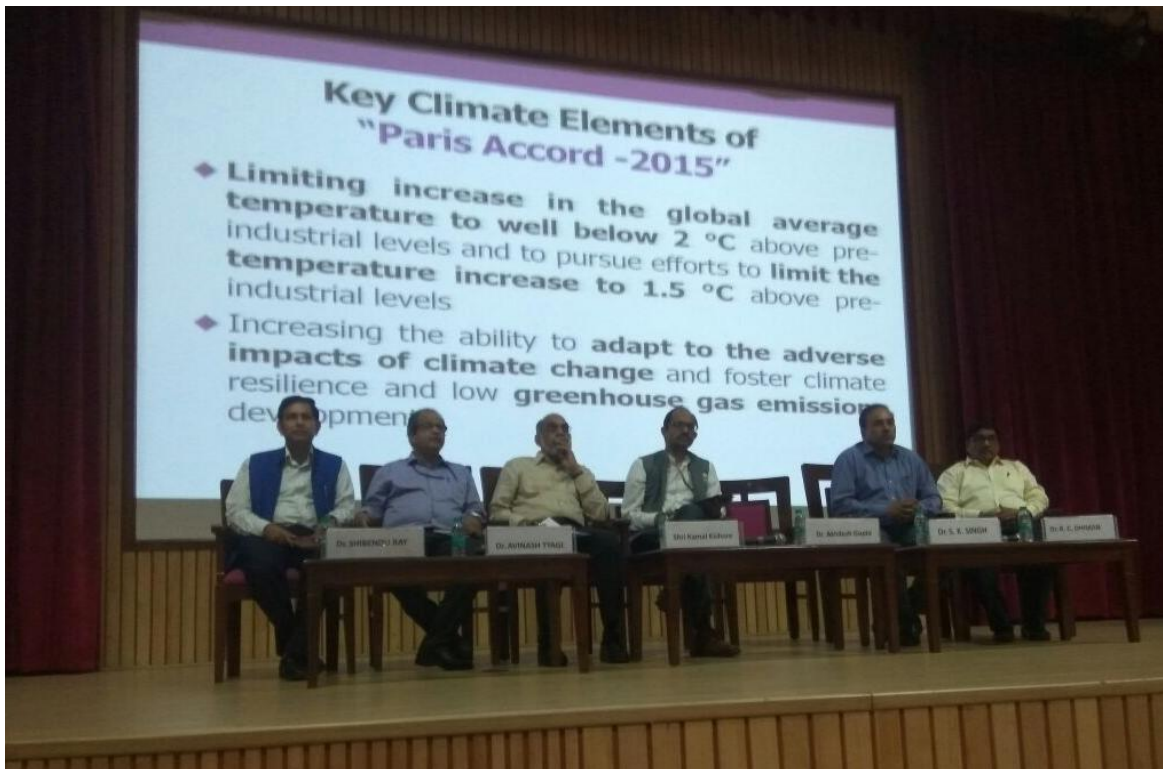
Mohika Hall, Ministry of Earth Sciences, New Delhi

#### PANEL DISCUSSION ON “CLIMATE SMART” A BRIEF REPORT

The Indian Meteorological Society and India Meteorological Department jointly organized the World Meteorological Day - 2018 on Friday the 23<sup>rd</sup> March, 2018. On this occasion a Seminar was organized in Mahika Hall of the Ministry of Earth Science, Lodi Road, New Delhi on this year theme of WM Day viz., **“Weather Ready, Climate Smart”**.

As part of the above seminar, a panel discussion was organized on the theme “Climate Smart”. The following were the panelists of this discussion.

1	<b>DR AKHILESH GUPTA (Moderator)</b>	Adviser & Head, Climate Change Programme, Department of Science & Technology
2	<b>SHRI KAMAL KISHORE</b>	Member, National Disaster Management, Authority (NDMA), Min. of Home Affairs
3	<b>DR AVINASH TYAGI,</b>	Secretary General, International Commission on Irrigation & Drainage
4	<b>DR SHIBENDU RAY</b>	Director, Mahalanobis National Crop Forecast Centre, Ministry of Agriculture
5	<b>DR SK SINGH</b>	Adviser, Ministry of New & Renewable Energy (MNRE)
6	<b>DR RC DHIMAN</b>	Head- DST’s Centre of Excellence, , National Institute of Malaria Research, ICMR, Ministry of Health & family Welfare
7	<b>DR SD. ATTRI</b>	DDG, India Meteorological Department, MoES



(Top : Dr. Akhilesh Gupta, moderator of the Panel discussion addressing the members and the audiences . Bottom – Panel members from left to right : Dr. S. D. Attri, DR. Shibendu Ray, Dr. Avinash Tyagi, Shri Kamal Kishore, Dr. S. K. Singh and Dr. R. C. Dhiman).

The panel discussion was moderated by Dr Akhilesh Gupta. The discussion began with an opening presentation by Dr Akhilesh Gupta. Some of the key issues presented by him include the following.

- a. The climate smart actions consist of following –
  - ◆ Sustainable AGRICULTURE to achieve food security
  - ◆ Efficient WATER management to achieve water security
  - ◆ Improve HEALTH services
  - ◆ Minimize impact of extreme events- DISASTER MANAGEMENT
  - ◆ Operationalize effective CLIMATE SERVICES
  - ◆ ENERGY efficiency and security
  - ◆ Effective Environmental POLICY
- b. The most important action that needs to be initiated as part of climate smart action is to build and operationalize a well structured “Climate service”. The Climate service is a decision aide derived from climate information that assists individuals and organizations in society to make improved decision-making. A climate service requires appropriate and iterative engagement to produce a timely advisory that end-users can comprehend and which can aid their decision-making and enable early action and preparedness. Climate services need to be provided to users in a seamless manner and need to respond to user requirements.
- c. The Global Framework on Climate Services (GFCS) has chosen following 5 priority areas for operationalizing climate services
  - ◆ Agriculture
  - ◆ Water
  - ◆ Health
  - ◆ Disaster Management
  - ◆ Energy (added recently)

Dr Akhilesh Gupta, initiated the debate by posing following 5 key questions to the panel :

1. *How do we enhance Climate Smart Actions in different priority sectors (viz., Agriculture, Water, Health, Disaster management and energy) ?*
2. *How do we bring greater synergy and collaboration among ministries and institutions to contribute toward an effective Climate service?*
3. *How can we help IMD operationalizing the National Climate Services?*
4. *How do we build effective linkages with State Governments?*
5. *How do we ensure community participation in the dissemination of Climate Advisories?*

After the above brief introduction of the theme, Dr Gupta invited panelists to present their points of view and intervention for the debate.

Following paragraphs provide summary of presentations and issues flagged by various panelists.

1. **Dr Avinash Tyagi on the sub-theme “WATER”**

Dr Tyagi made a brief presentation on the water related issues pertaining to weather and climate such as water availability, water quality, water related disasters and climate change. He suggested that climate services should be built through a close collaboration with Ministry of Water Resources and its institutions. He was of the opinion that for the success of the climate services, close linkages may be created with several other water related institutions, agencies and societies/academies.

2. **Shri Kamal Kishore on the sub-theme “DISASTER MANAGEMENT”**

Shri Kishore emphasized on the importance of hydro-meteorological disasters and presented 3 major issues concerning “Climate Smart”

He mentioned that to be Climate Smart -

- We must move from managing the disaster events to managing the risk from disasters
- Make efforts to stop creating new risk – estimation of projected risk under different CC scenarios
- Build capacity to deal with uncertainties associated with local level risk due to CC by continuous updation and mapping of risk and vulnerability. Also take care of incremental changes (such as sea level rise) rather than extremes at local level.

3. **Dr Shibendu Ray on sub-theme “AGRICULTURE”**

Dr Ray emphasized on the need to upscale meteorological, agro-meteorological and other related observational network, build collaboration to leverage access to other observing systems in the country, further improvement in medium range weather forecasting accuracy, etc. He mentioned about various programmes launched by the Ministry of Agriculture such as those initiated as part of National Mission on Sustainable Agriculture under NAPCC. He elaborated on the impact of CC on agriculture.

**4. Dr RC Dhiman on sub-theme “HUMAN HEALTH”**

Dr Dhiman presented existing and projected impacts of climate change on human health in the country. He mentioned that a Centre of Excellence has been created at the National Institute of Malaria Research in Delhi with the support of DST. He stated the Centre is working actively in the area of CC and vector borne diseases which if asked for, will be happy to provide its inputs and advisories to proposed Climate services

**5. Dr S.K.Singh on the sub-theme “ENERGY”**

Dr Singh provided details of several initiatives taken up his Ministry of New and Renewable Energy (MNRE) in the area solar, wind and other renewable energy sources. He elaborated on the initiatives under National Solar Energy and proposed National Mission on Wind energy. He also mentioned about India’s initiative to establish an International Alliance on Solar energy.

**6. Dr SD Attri on the sub-theme “CLIMATE SERVICES OF IMD”**

Dr Attri provided a background of the Global Framework on Climate services and the role Ministry of Earth sciences and IMD have played in developing this global initiative. He also presented details of Agro-advisory services provided by IMD and proposed plan to extend the services at block level. Dr Attri requested all the stakeholder departments and ministries to provide their inputs and also sought inputs from them as to kind of advisories needed by them as part of climate services.

After the presentations and interventions of various panelists, there have been some questions, comments and observations from a couple of participants. Some of the key participants who actively participated in the discussion include; Former Presidents like Dr Shailesh Nayak, Prof SK Dube, Dr Ajit Tyagi and Dr R.K.Datta; President elect- Prof SK Dash; Fellow – Dr H.N.Srivastava; Members- Prof OP Sharma, Prof (Mrs) Pramila Goel, Dr BK Singh; Shri Manish. The panel discussion was witnessed by a large number of IMS members, and a number of senior scientists and representatives from various ministries like MoES, DST, MoWR, MoAg, Ministry of Health & Family Welfare; etc.

## **SUMMARY OF RECOMMENDATIONS**

The panel adopted a few recommendations for considerations of concerned departments/ministries. These include the following -

- a) *Efforts may be made to build inter-ministerial collaboration with relevant ministries (e.g.; DST, MoEF&CC; Min. of Agri; Ministry of Water Resources, Min. of Health & family Welfare; Min. of Home Affairs; etc) responsible for providing inputs for implementing an effective operational climate services by IMD.*
- b) *Efforts may be made to create linkages with State Governments. DST's supported State CC Cells may be helpful in this regard.*
- c) *Relevant ministries may be requested to provide their requirements for IMD's climate services.*
- d) *Likewise these ministries may be approached to provide necessary inputs for the services on an operational basis*
- e) *IMS may organize a National Stakeholder Workshop on Climate services during 2018-19 with the possible support from MoES and DST*

At the end, Dr Akhilesh Gupta, the Moderator of the panel thanked each of the panelists for their presentations and interventions and participants for posing interesting questions and observations to the panel. He thanked IMS, especially Dr Ajit Tyagi, President for giving the opportunity to him and the panelists to express their views in the panel discussion.

The panel discussion concluded with a vote of thanks to all who actively participated.



***Honourable Fellows of IMS (Prof. S. K. Dube, Dr. Shailesh Nayak and Dr. H. N. Srivastava presenting memento to the panel members Dr. Shibendu Ray, DR. Avinash Tyagi and Dr. R. C. Dhiman)***



## PHOTO GALARY



















