

**Webinar on**  
**Understanding Climate Services for DRR**  
**13<sup>th</sup> October, 2021 | Time: 03:00 pm – 05:00 pm**

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**“Climate is what we expect, weather is what we get.” - Mark Twain**

**Background:**

The famous adage by Mark Twain has made it simpler to understand the distinction between weather which is atmospheric conditions like temperature, precipitation, humidity, wind etc that we experience in short duration or rather on day to day basis and climate which is what we expect or predict these average weather conditions to be over a long period of time at given geographic area. Global warming fuelled by climate change in recent times has increased the frequency, duration and intensity of extreme and erratic weather events which is not just increasing disaster losses and damages of properties but also affecting and killing more people around the world than ever in the past. For examples, according to the Centre for Research on the Epidemiology of Disasters, devastating floods killed 18% more people globally during year 2020 than the annual average of flood deaths.

This clearly indicates that in order to reduce the adverse effects of such frequent disastrous events on lives and properties, we need to better monitor, assess, predict, **communicate**, prepare, and respond to erratic weather and climatic events in future which is not possible unless coherent actions are taken across different overarching policy areas. Hazard, apart from vulnerability and exposure is an important factor that contributes into disaster risk but unlike vulnerabilities and exposure, the adverse effects and impacts of hazards, particularly natural hazards can often not be fully prevented. The good part here is that advancement in monitoring, assessment, and in precision of prediction of weather and climatic natural hazardous events has led to improved climate services such as effective early warning systems (EWS) that helps in informed decision making and plays a major role in mitigating the ill effects of such weather and climatic natural hazardous events.

The Global Framework for Climate Services (GFCS) endorsed by 155 nations including India at the Third World Climate Conference in 2009 aims “*to strengthen the production, availability, delivery and application of science-based climate prediction and services,*” in order to develop climate services, products and information that are in tandem with the needs of end-user mainly from five priority areas which are Disaster Risk Reduction (DRR) , Health, Water, Energy, and Agriculture & Food Security.

The national weather agency of India which is the India Meteorological Department (IMD) also being a GFCS member has been providing climate services in terms of forecasts, alerts, and warnings to these priority areas with different lead times and levels of accuracy. IMD provides probabilistic forecast services of temperature and rainfall at a range of spatial scales such as station wise, district wise, state/IMD subdivision wise, pan India level, and even at South Asia Region Level (SASCOF), and on a range of temporal scales such as,

- **Nowcasting** with lead time/validity of less than 24 hours
- **Short Range Forecasts** with lead time/validity ranging from 1 to 3 days
- **Medium Range Forecasts** with lead time/validity ranging from 4 to 10 days
- **Long Range/Extended Range Forecasts** with lead time/validity more than 10 days
- **Seasonal Forecasts** at the beginning of each of the four meteorological seasons of India

In addition to those priority area forecasts, alerts, and warnings, IMD also provides end-user specific advisories and forecasts such as “Health Meteorological Bulletin” through which provides climate information for the coming two weeks is provided for the transmission windows of temperature favourable for the development of vector-borne diseases like malaria and dengue. Figure 1 shared below is part of the same report issued by IMD on 1<sup>st</sup> Oct 2021.

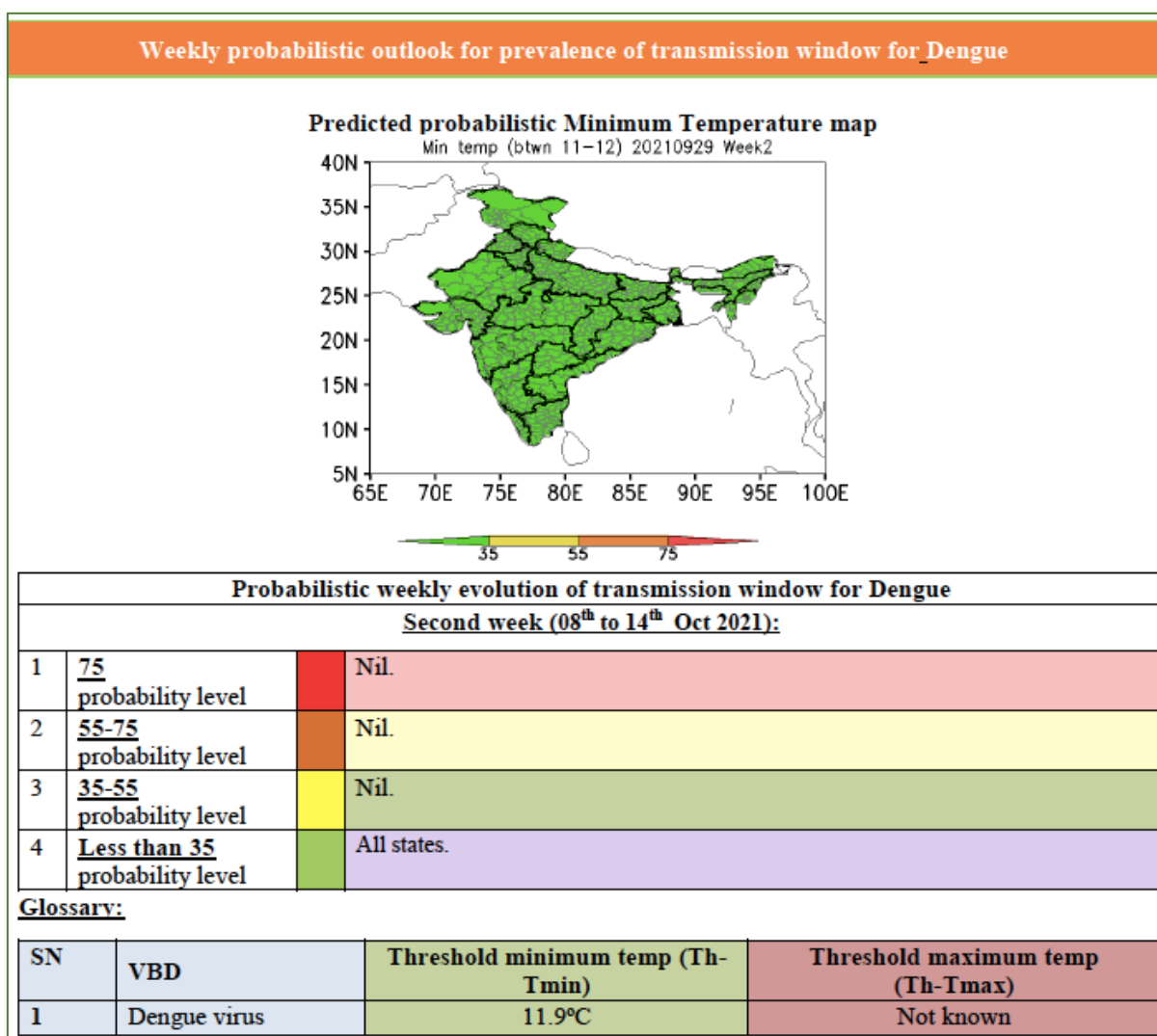


Figure 1:: Health Meteorological Bulletin

Source:: IMD

The landmark frameworks and agreements recently adopted by the United Nations mainly the Sendai Framework for Disaster Risk Reduction (SFDRR), Paris Agreement, and Sustainable Development Goals have also highlighted the interconnectedness and interdependence of different yet closely overlapping policy areas and the importance of coherence in actions that span over the policy areas of DRR, climate change adaptation (CCA) & mitigation for sustainable development. This means that the measures of CCA taken to mitigate and minimize the unfavourable impacts from the perils of imminent weather and climatic hazardous events are in accordance with the measures taken for DRR which includes effective use of climate services like EWS for better understanding and communication of risks of weather and climatic natural hazardous event and preparedness and response to them. Figure

2 from a study by Street et al., 2019 on the linkages between CS and DRR describes the overarching connections between the areas of CCA, CS, and DRR.

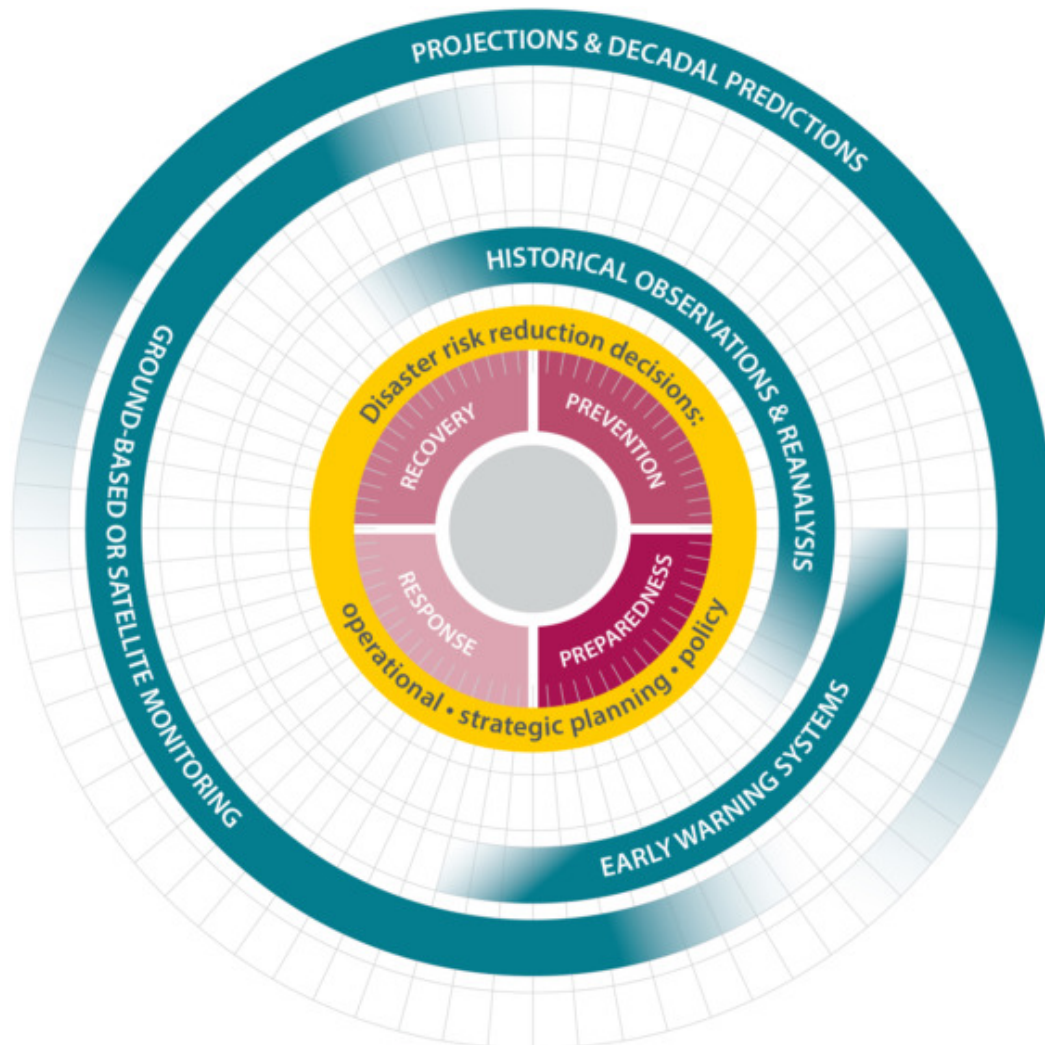


Figure 1: Linkages between CCA, CS & DR

Source: Street et al., 2019

The SFDRR has set four key priority areas of action to achieve a significant reduction of risk from losses and damages to properties and loss of livelihood, health, and lives of people from disasters. Considering the connections between CCA, CS, and DRR, any government, community, or institution cannot approach the fourth priority of SFDRR which is Enhancing disaster preparedness for effective response, and to "Build Back Better" in recovery, rehabilitation and reconstruction without sound knowledge and understanding of “what is that

(hazard) we need to prepare for?” and that the gap which climate services fill-up in case of weather and climatic natural hazards that are historically causing the highest amount of damages among all hazards put together.

The state of Gujarat has vast heterogeneity in its climate profile. With the longest coastline in the country on the southwest part of the state making climatic conditions moist, humid, and relatively lesser dry and hot in most of the southern areas of the state to dry climatic conditions in northern parts and very hot climatic conditions during summers particularly in the northern region of the state where the tropics of cancer passes through. This large variation in climate also makes the state exposed to a variety of weather and climatic natural hazards such as heatwaves, cyclones, excess rainfalls & floods, and temperature windows favourable for vector-borne diseases transmission. All this together makes it even more important for officials in government departments and institutions, especially those who play key roles in preparing and responding to disasters in the state of Gujarat to know and better understand the climate services provided by the agencies such as IMD, INCOIS, CWC, etc. to efficiently utilize them for DRR measures.

The Gujarat Institute of Disaster Management (GIDM) registered as an autonomous institute has been entrusted with the responsibility of human resource development, capacity building, training, research, and documentation in the field of disaster risk management by the Government of Gujarat. Enhancing the understanding of disaster risk among all of the institutions and sections of the society is the first step towards identifying, reducing, and managing disaster risks of various natural and man-made hazards and GIDM has been rigorously working in this direction since its inception. GIDM, in all its endeavours in the field of Disaster Risk Management, Climate Change, and Sustainable Development strives to realize the guiding agendas and frameworks like SFDRR, 10 Point Agenda of Honourable PM, COP 21, and SDGs. Aligning to Priority 1 of SFDRR and to ensure the continuum of capacity building arranging, GIDM is arranging this two-hour webinar for key stakeholders who play a pivotal role in preparing and responding to disasters in the state of Gujarat.

## **WEBINAR SCHEDULE**

**Title:** Understanding Climate Services for DRR

**Date:** 13<sup>th</sup> October, 2021 | **Time:** 03:00 pm – 05:00 pm

**Mode:** Online (Webinar)

### **Aim & Objective:**

At the end of the webinar participants will be able to:

- Understanding climate and weather profile of Gujarat.
- Connect dots between climate change adaptation and disaster risk reduction
- Know and better understand the available climate services and their role in DRR

### **Schedule:**

#	Topic	Speaker	Time
1	Opening remarks and introduction	GIDM	15 minutes
2	Understanding climate and weather profile of Gujarat.  Linkages between climate change adaptation and disaster risk reduction	Shri Ankur Srivastava, RAPC - GIDM ROPM (I/C) - SDMC	45 minutes
3	Climate services and their role in DRR	Dr. K. Sathi Devi, Scientist F & Head, National Weather Forecasting, IMD	45 minutes
4	Q&A Session and Closing Remarks	GIDM	15 minutes

### **Targeted Audience (Limit ~ 100):**

- Mamlatdar (DM), Dy. Mamlatdar (DM), District Project Officers (GSDMA), TDOs
- CDHOs, ADHOs, THOs, AHAs
- Resident Medical Officers (RMOs), Medical officers CHCs & PHCs