



## Climate information for Health

Based on GFS and Extended Range Weather Forecast

(Valid from 02<sup>nd</sup> June to 15<sup>th</sup> June 2023)

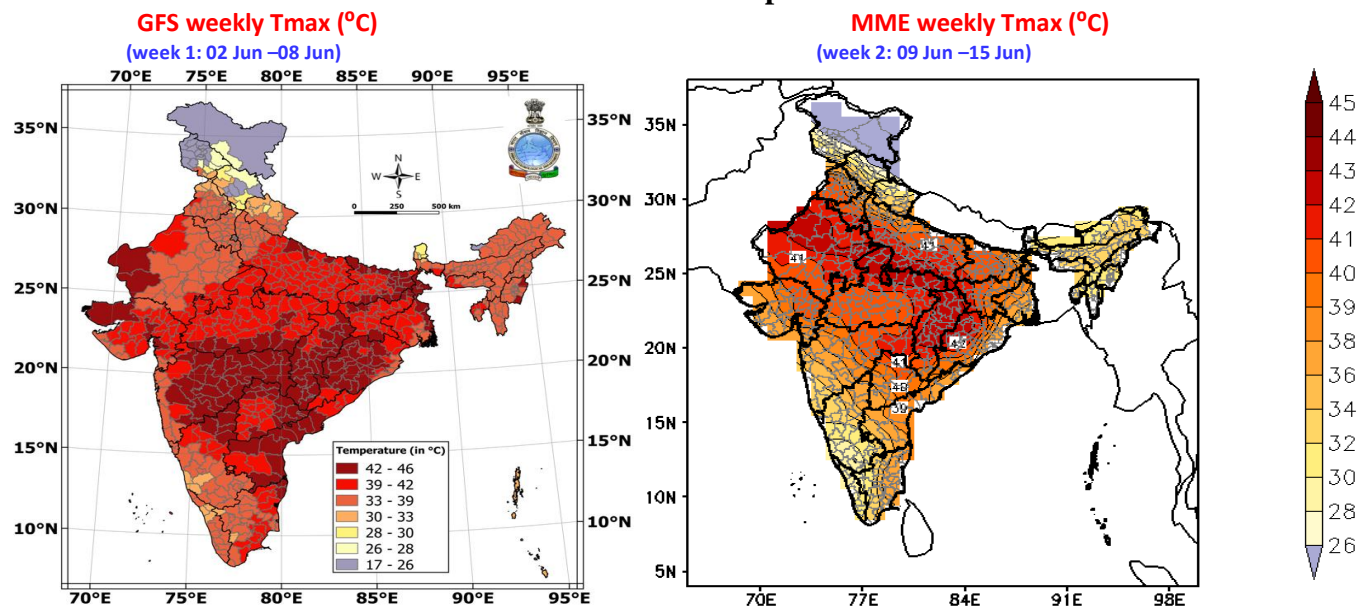
Issued on 02<sup>nd</sup> June, 2023

Office of Climate Research and Services, India Meteorological Department, Pune

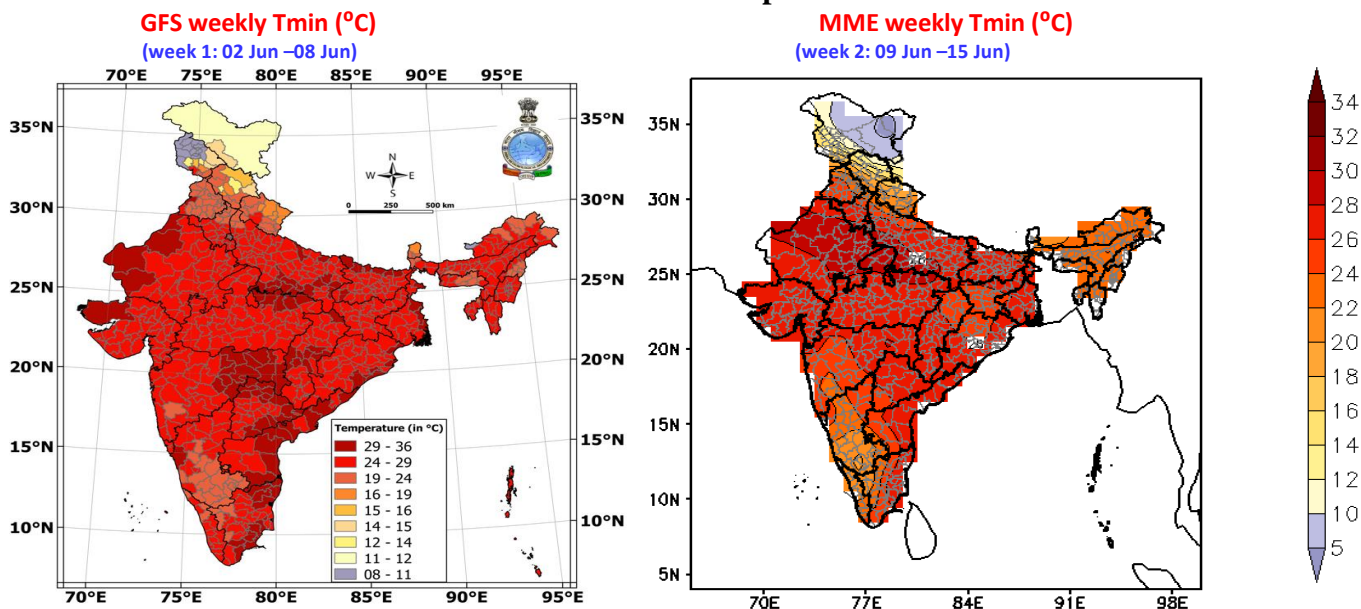
Climate information for coming two weeks is provided for the transmission windows of temperature favorable for development of vector borne diseases like malaria and dengue based on GFS and ERFS.

### Weekly Prediction of maximum and minimum temperature

#### Predicted Maximum Temperature



#### Predicted Minimum Temperature



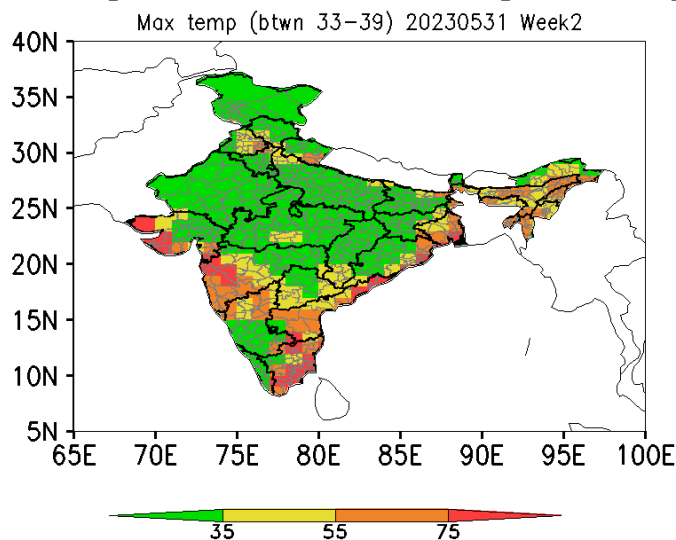
#### Weather Warning

- Major districts of Maharashtra, Chhattisgarh, Odisha, Telangana, Andhra Pradesh, some districts of Bihar, Madhya Pradesh, Jharkhand, West Bengal, Karnataka, few districts of Rajasthan (Barmer, Jaisalmer), Gujarat (Bharuch, Ahmedabad, Kachchh), Uttar Pradesh (Baharaich, Kheri, Sidharth Nagar), Manipur (Ukhrul, Chandel) and Tamil Nadu (Tiruvallur, Kanchipuram) will experience maximum temperature above 42°C during 02<sup>nd</sup> to 08<sup>th</sup> June 2023.

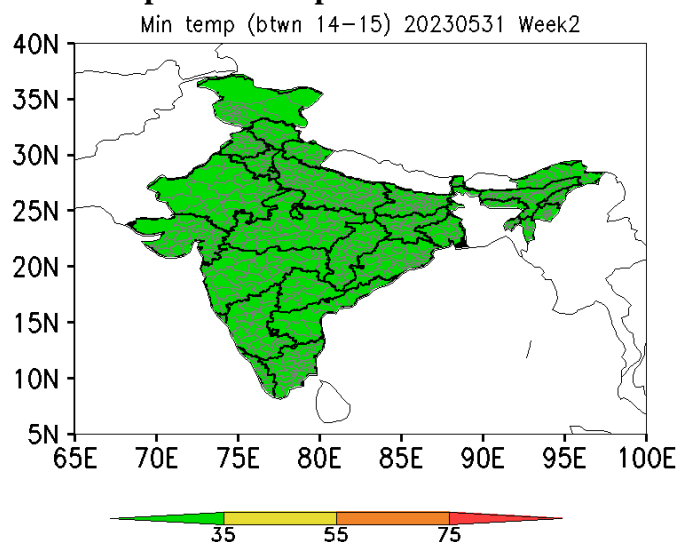
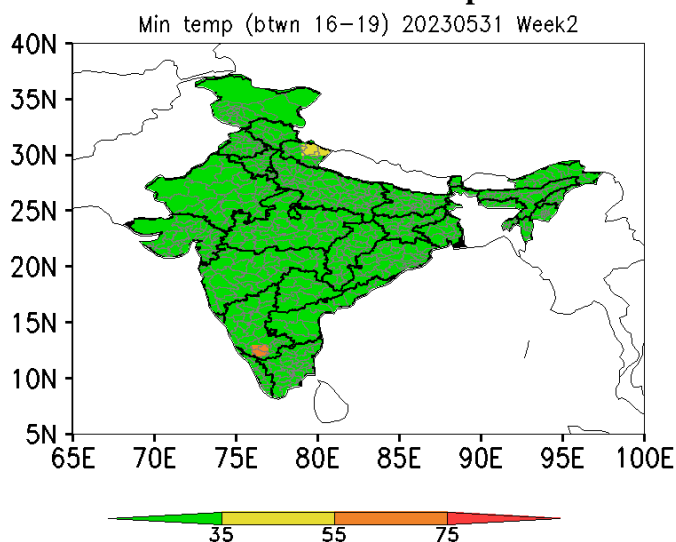
GFS based weekly evolution of transmission window for Malaria and Dengue for Week-I				
Week	VBD	Threshold temp.		Regions within the range of predicted temperatures for Tmax/Tmin or both in Threshold temperatures range.
		Th-Tmax	Th-Tmin	
02 <sup>nd</sup> to 08 <sup>th</sup> June 2023	Malaria ( <i>Plasmodium falciparum</i> )	33-39 <sup>0</sup> C	16-19 <sup>0</sup> C	All districts of Nagaland, Mizoram, Goa, Haryana (Panchkula, Yamunanagar, Ambala), Arunachal Pradesh (except Tawang), Assam (except Dhubri), Manipur (except Ukhrul, Chandel), Meghalaya (except South, South-west & West Garo Hills), Kerala (except Wayanad, Kozikod, Malappuram), major districts of Punjab, Uttarakhand, Rajasthan, Tripura, Tamil Nadu, some districts of Uttar Pradesh, Gujarat, Maharashtra, Karnataka, West Bengal, Odisha, few districts of Jammu & Kashmir (Jammu, Udhampur), Himachal Pradesh (Bilaspur, Mandi) and Sikkim (Noth Sikkim).
	Malaria ( <i>Plasmodium Vivax</i> )	33-39 <sup>0</sup> C	14-15 <sup>0</sup> C	All districts of Nagaland, Mizoram, Goa, Haryana (Panchkula, Yamunanagar, Ambala), Arunachal Pradesh (except Tawang), Assam (except Dhubri), Manipur (except Ukhrul, Chandel), Meghalaya (except South, South-west & West Garo Hills), Kerala (except Wayanad, Kozikod, Malappuram), major districts of Punjab, Uttarakhand, Rajasthan, Tripura, Tamil Nadu, some districts of Uttar Pradesh, Gujarat, Maharashtra, Karnataka, West Bengal, Odisha, few districts of Ladakh (Kargil), Jammu & Kashmir (Jammu, Doda, Kishtwar) and Himachal Pradesh (Kinnaur).
	Dengue	Not known	11.9 <sup>0</sup> C	Leh district of Ladakh.
ERFS based weekly evolution of transmission window for Malaria and Dengue for Week-II				
09 <sup>th</sup> to 15 <sup>th</sup> June 2023	Malaria ( <i>Plasmodium falciparum</i> )	33-39 <sup>0</sup> C	16-19 <sup>0</sup> C	Goa, major parts of Uttarakhand, Assam, Meghalaya, Nagaland, Tripura, West Bengal, Andhra Pradesh, Tamil Nadu, some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Uttar Pradesh, Arunachal Pradesh, Odisha, Gujarat, Maharashtra, Karnataka, isolated parts of Himachal Pradesh, Bihar, Jharkhand, Manipur and Kerala.
	Malaria ( <i>Plasmodium Vivax</i> )	33-39 <sup>0</sup> C	14-15 <sup>0</sup> C	Goa, major parts of Uttarakhand, Assam, Meghalaya, Nagaland, Tripura, West Bengal, Andhra Pradesh, Tamil Nadu, some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Uttar Pradesh, Arunachal Pradesh, Odisha, Gujarat, Maharashtra, Karnataka, isolated parts of Himachal Pradesh, Bihar, Jharkhand, Manipur and Kerala.
	Dengue	Not known	11.9 <sup>0</sup> C	Some parts of Jammu & Kashmir and Himachal Pradesh.

## Weekly probabilistic outlook for prevalence of transmission window for Malaria

## Predicted probabilistic Maximum Temperature map



## Predicted probabilistic Minimum Temperature map

Probabilistic weekly evolution of transmission window for Malaria (*Plasmodium falciparum*).Second week (09<sup>th</sup> June to 15<sup>th</sup> June 2023):

1	<u>75</u> probability level	Some parts of Gujarat, Maharashtra, Andhra Pradesh, Tamil Nadu, isolated parts of Odisha, West Bengal, Karnataka and Kerala.
2	<u>55-75</u> probability level	Goa, Tripura, major parts of Nagaland, Mizoram, Assam, some districts of Punjab, West Bengal, Odisha, Andhra Pradesh, Tamil Nadu, Karnataka, Maharashtra Gujarat, few districts of Haryana, Bihar, Meghalaya, Arunachal Pradesh and Kerala.
3	<u>35-55</u> probability level	Major districts of Punjab, Arunachal Pradesh, Meghalaya, some districts of Himachal Pradesh, Uttarakhand, Uttar Pradesh, Bihar, West Bengal, Assam, Manipur, Odisha, Jharkhand, Chhattisgarh, Madhya Pradesh, Maharashtra, Karnataka, Telangana, Andhra Pradesh, Tamil Nadu few districts of Jammu & Kashmir, Haryana, Rajasthan, Gujarat and Mizoram.
4	<u>Less than 35</u> probability level	Major districts in rest of states.

Probabilistic weekly evolution of transmission window for Malaria ( <i>Plasmodium vivax</i> )			
Second week (09 <sup>th</sup> June to 15 <sup>th</sup> June 2023):			
1	<b>75</b> probability level		Some parts of Gujarat, Maharashtra, Andhra Pradesh, Tamil Nadu, isolated parts of Odisha, West Bengal, Karnataka and Kerala.
2	<b>55-75</b> probability level		Goa, Tripura, major parts of Nagaland, Mizoram, Assam, some districts of Punjab, West Bengal, Odisha, Andhra Pradesh, Tamil Nadu, Karnataka, Maharashtra Gujarat, few districts of Haryana, Bihar, Meghalaya, Arunachal Pradesh and Kerala.
3	<b>35-55</b> probability level		Major districts of Punjab, Arunachal Pradesh, Meghalaya, some districts of Himachal Pradesh, Uttar Pradesh, Bihar, West Bengal, Assam, Manipur, Odisha, Jharkhand, Chhattisgarh, Madhya Pradesh, Maharashtra, Karnataka, Telangana, Andhra Pradesh, Tamil Nadu few districts of Jammu & Kashmir, Haryana, Uttarakhand, Rajasthan, Gujarat and Mizoram.
4	<b>Less than 35</b> probability level		Major districts in rest of states.

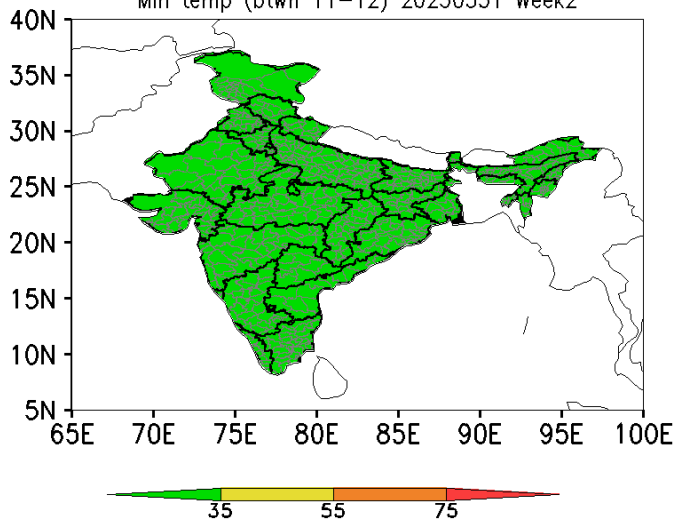
**Glossary:**

SN	Malaria VBD	Threshold minimum temp (Th-Tmin)	Threshold maximum temp (Th-Tmax)
1	<i>Plasmodium falciparum</i>	16-19°C	33-39°C
2	<i>Plasmodium vivax</i>	14-15°C	

**Weekly probabilistic outlook for prevalence of transmission window for Dengue**

**Predicted probabilistic Minimum Temperature map**

Min temp (btwn 11-12) 20230531 Week2



Probabilistic weekly evolution of transmission window for Dengue			
Second week (09 <sup>th</sup> June to 15 <sup>th</sup> June 2023):			
1	<b>75</b> probability level		Nil.
2	<b>55-75</b> probability level		Nil.
3	<b>35-55</b> probability level		Nil.
4	<b>Less than 35</b> probability level		All states.

**Glossary:**

SN	VBD	Threshold minimum temp (Th-Tmin)	Threshold maximum temp (Th-Tmax)
1	Dengue virus	11.9°C	Not known

**Verification of previous week 26<sup>th</sup> May to 01<sup>st</sup> June 2023 weather warning issued for development of vector borne diseases.**

Following table provides the verification of previous week 26<sup>th</sup> May to 01<sup>st</sup> June temperature forecast issued in last week bulletin with realized temperature.

Week	VBD	Threshold temp.	Regions within the range of <b>predicted</b> temperatures for Tmax/Tmin or both in Threshold temperatures range.	Regions within the range of <b>realised</b> temperatures for Tmax/Tmin or both in Threshold temperatures range.
<b>26<sup>th</sup> May to 01<sup>st</sup> June 2023</b>	Malaria ( <i>Plasmodium falciparum</i> and <i>Vivax</i> )	33-39 °C	All districts of Goa, Mizoram (except Champhai), Tripura (except Gomati), Kerala (except Wayanad, Kozikod, Malappuram), major districts of Punjab, Haryana, Uttar Pradesh, Bihar, Arunachal Pradesh, Assam, Karnataka, Tamil Nadu, some districts of Gujarat, Maharashtra, Rajasthan, Jharkhand, Meghalaya, West Bengal, few districts of Jammu & Kashmir (Jammu, Samba), Manipur (Churachandpur, Senapati, Tamenglong), Nagaland (Wokha) Odisha (Deogarh, Koraput) and Telangana (Hyderabad, Medchal Malkajgiri, Medak).	All districts of Gujarat, Goa, Jharkhand, Mizoram, Madhya Pradesh (except Burhanpur), Bihar (except Kishanganj), major districts of Uttar Pradesh, Chhattisgarh, West Bengal, Odisha, Telangana, Andhra Pradesh, Karnataka, Tamil Nadu, some districts of Rajasthan, Maharashtra, Assam, Manipur, Kerala, few districts of Arunachal Pradesh (Changlang) Meghalaya (South-west & West Garo Hills) and Nagaland (Peren).
	Malaria ( <i>Plasmodium falciparum</i> )	16-19°C	All districts of Sikkim, major districts of Uttarakhand, some districts of Himachal Pradesh, few districts of Jammu & Kashmir (Kishtwar, Udhampur), Ladakh (Kargil), Punjab (Barnala) and West Bengal (Kalimpong)	All districts of Sikkim, some districts of Punjab, Haryana, Uttarakhand, few districts of Jammu & Kashmir (Kathua), Himachal Pradesh (Sirmaur, Solan), Rajasthan (Jhunjhunun, Sikar), Uttar Pradesh (Saharanpur, Rampur), West Bengal (Darjeeling, Jalpaiguri, Kalimpong), Assam (Kamrup Rural), and Meghalaya (East, South-west & West Khasi Hills).
	Malaria ( <i>Plasmodium vivax</i> )	14-15°C	Nil	Few districts of Jammu & Kashmir (Udhampur), Himachal Pradesh (Kangra) and Uttarakhand (Chamoli, Uttarkashi).
	Dengue virus	11.9°C	Few districts of Jammu & Kashmir (Rajouri), Ladakh (Leh) and Himachal Pradesh (Hamirpur).	Few districts of Jammu & Kashmir (Riasi) and Himachal Pradesh (Mandi. Hamirpur, Bilaspur).