



## Climate information for Health

(Experimental basis)

Based on GFS and Extended Range Weather Forecast  
(Valid from 15<sup>th</sup> to 28<sup>th</sup> January, 2021)

Issued on 15<sup>th</sup> January, 2021

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

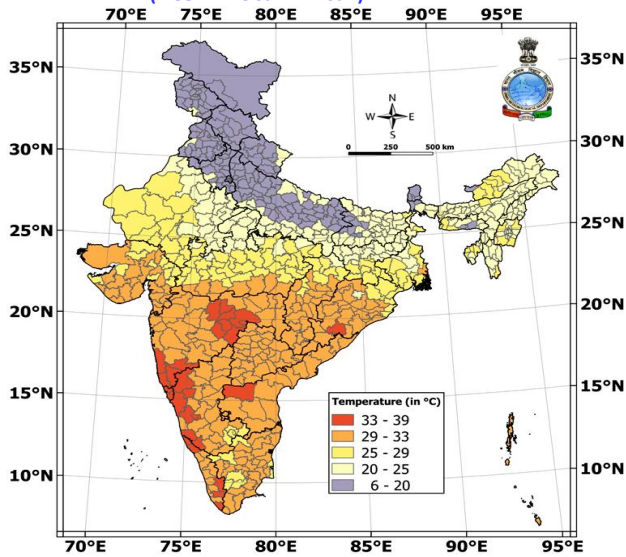
Climate information for coming two weeks is provided for the transmission windows of temperature favorable for development of vector borne diseases like malaria and dengue based on GFS and ERFS.

### Weekly Prediction of maximum and minimum temperature

#### Predicted Maximum Temperature

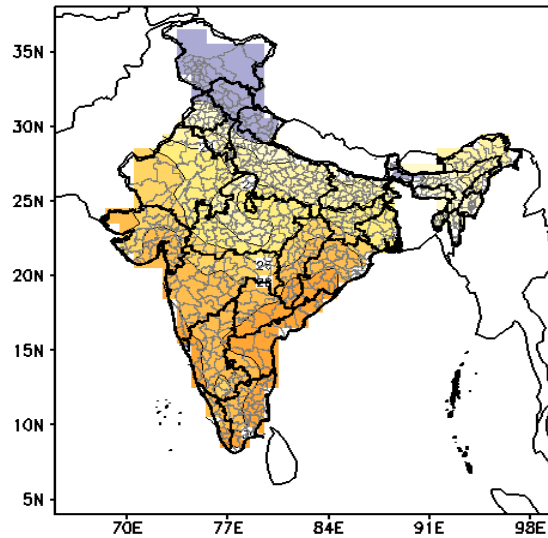
**GFS weekly Tmax (°C)**

(week 1: 15 Jan - 21 Jan)



**MME weekly Tmax (°C)**

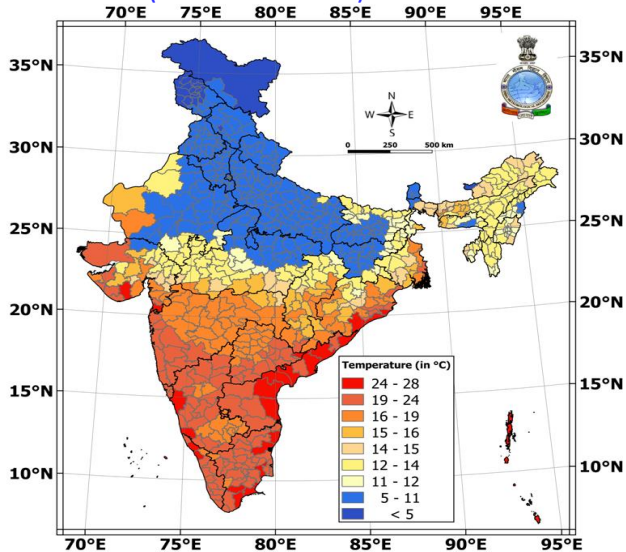
(week 2: 22 Jan - 28 Jan)



#### Predicted Minimum Temperature

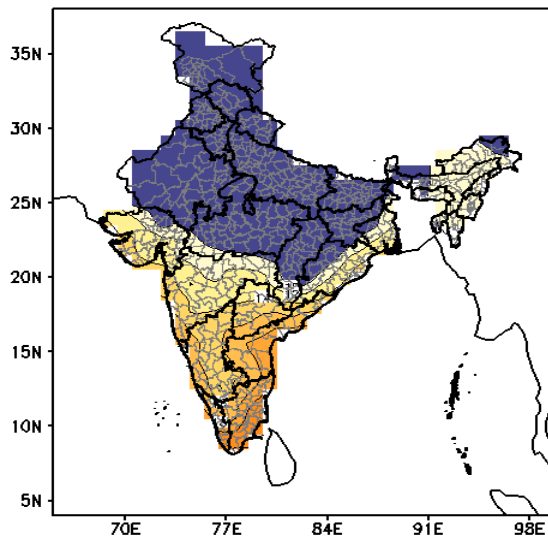
**GFS weekly Tmin (°C)**

(week 1: 15 Jan - 21 Jan)



**MME weekly Tmin (°C)**

(week 2: 22 Jan - 28 Jan)



#### Weather Warning

- Major districts of Jammu & Kashmir, few districts of Ladakh (Leh), Himachal Pradesh (Hamirpur) and Arunachal Pradesh (Tawang) will experience minimum temperature below 5°C during 15<sup>th</sup> to 21<sup>st</sup> January, 2021.

**GFS based weekly evolution of transmission window for Malaria and Dengue for Week-I**

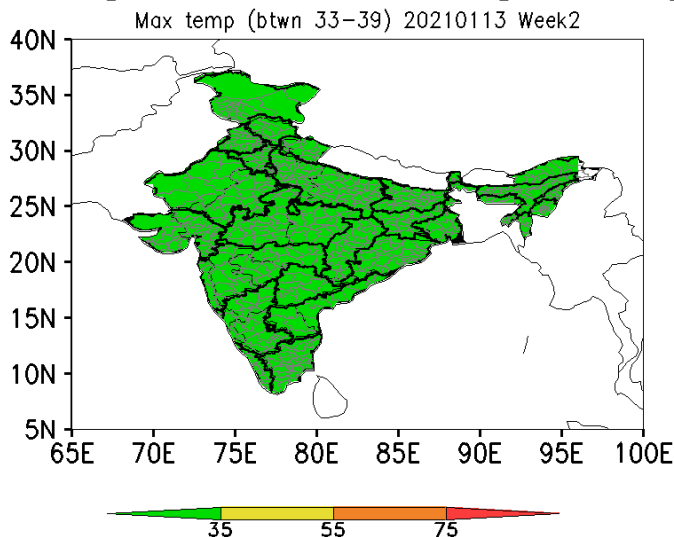
Week	VBD	Threshold temp.		Regions within the range of predicted temperatures for Tmax/Tmin or both in Threshold temperatures range.
		Th-Tmax	Th-Tmin	
15 <sup>th</sup> to 21 <sup>st</sup> Jan 2021	Malaria ( <i>Plasmodium falciparum</i> )	33-39 <sup>o</sup> C	16-19 <sup>o</sup> C	All districts of Goa, major district of Maharashtra, Telangana, some district of Gujarat, Chhattisgarh, Odisha, Karnataka, Kerala, few districts of Rajasthan (Barmer), Madhya Pradesh (Barwani), Assam (Dubri), West Bengal (Nadia, Mursidabad, South 24 Parganas), Andhra Pradesh (Kurnool) and Tamil Nadu (Nilgiri, Teni).
	Malaria ( <i>Plasmodium Vivax</i> )	33-39 <sup>o</sup> C	14-15 <sup>o</sup> C	All districts of Goa, some districts of Gujarat, Madhya Pradesh, Maharashtra, Karnataka, West Bengal, Arunachal Pradesh, Assam, Kerala, few districts of Chhattisgarh (Bemetara), Odisha (Bauda, Angul, Rayagarha), Manipur (Ukhrul, Chandel), Tripura (Sepahijala, West Tripura), Meghalaya (South Garo Hills) and Andhra Pradesh (Karnool).
	Dengue	Not known	11.9 <sup>o</sup> C	Major district of Manipur, some districts of Madhya Pradesh, Bihar, Jharkhand, Nagaland, few districts of Rajasthan (Udaipur, Baran), Chhattisgarh (Balarampur), Odisha (Deorukh), Meghalaya (West Khasi Hills, Ri Bhoi, West Jaintia Hills), Mizoram (Longtlai, Saiha), Tripura (Unakoti, Goimati, south Tripura) and West Bengal (Malda, Uttar Dinajpur).

**ERFS based weekly evolution of transmission window for Malaria and Dengue for Week-II**

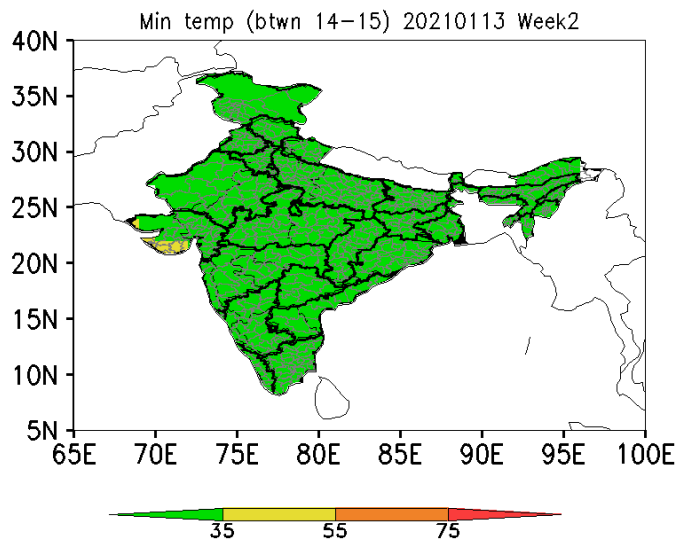
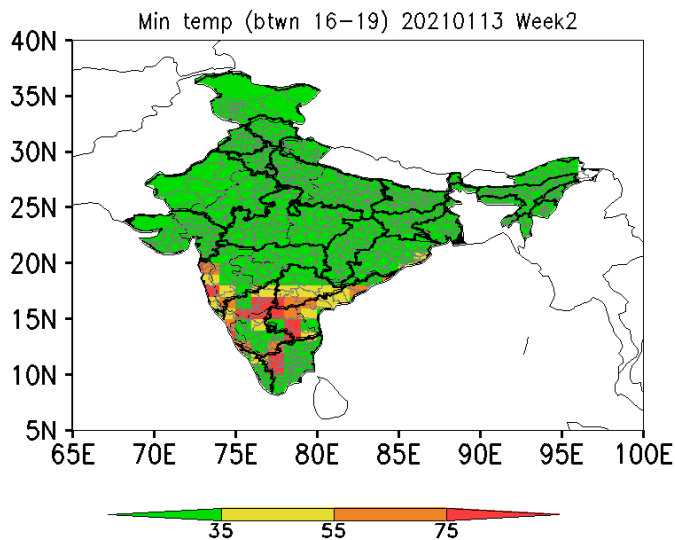
22 <sup>nd</sup> to 28 <sup>th</sup> Jan 2021	Malaria ( <i>Plasmodium falciparum</i> )	33-39 <sup>o</sup> C	16-19 <sup>o</sup> C	Goa, major parts of Andhra Pradesh, Tamil Nadu, Kerala, some parts of Karnataka, Telangana and isolated parts of Maharashtra.
	Malaria ( <i>Plasmodium Vivax</i> )	33-39 <sup>o</sup> C	14-15 <sup>o</sup> C	Major parts of Karnataka, some parts of Gujarat, Maharashtra, Telangana, isolated parts of Chhattisgarh, Odisha and Andhra Pradesh.
	Dengue	Not known	11.9 <sup>o</sup> C	Nagaland, Manipur, Mizoram, major parts of Arunachal Pradesh, Assam, Meghalaya, Tripura, some parts of Gujarat, Madhya Pradesh, Maharashtra, Odisha, West Bengal, isolated parts of Chhattisgarh and Jharkhand.

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 (22<sup>nd</sup> to 28<sup>th</sup> Jan 2021):**

1	<b>75</b> probability level	Some districts of Karnataka, Andhra Pradesh, Tamil Nadu, few districts of Maharashtra Telangana and Kerala.
2	<b>55-75</b> probability level	Some districts of Karnataka, Andhra Pradesh, few districts of Maharashtra Telangana, Kerala and Tamil Nadu.
3	<b>35-55</b> probability level	Major districts of Goa, some districts of Maharashtra, Karnataka, Telangana, Andhra Pradesh, few districts of Odisha, Kerala and Tamil Nadu.
4	<b>Less than 35</b> probability level	Major districts in rest of states.

**Probabilistic weekly evolution of transmission window for Malaria (*Plasmodium vivax*)**

**Second week (22<sup>nd</sup> to 28<sup>th</sup> Jan 2021):**

1	<b>75</b> probability level	Nil.
2	<b>55-75</b> probability level	Nil.
3	<b>35-55</b> probability level	Some districts of Gujarat.
4	<b>Less than 35</b> probability level	Major districts in rest of states.

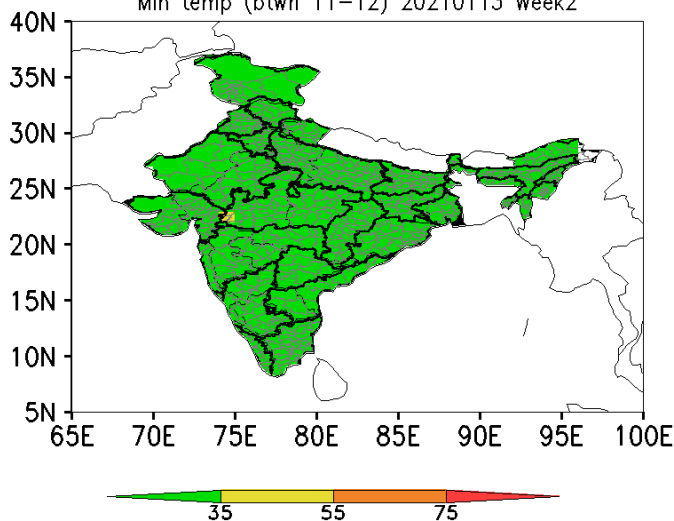
**Glossary:**

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) 20210113 Week2



**Probabilistic weekly evolution of transmission window for Dengue**

**Second week (15<sup>th</sup> to 21<sup>st</sup> Jan 2021):**

1	<b>75</b> probability level	Nil.
2	<b>55-75</b> probability level	Nil.
3	<b>35-55</b> probability level	Few districts of Gujarat and Madhya Pradesh.
4	<b>Less than 35</b> probability level	Major districts in rest of 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 08<sup>st</sup> to 14<sup>th</sup> January 2021 weather warning issued for development of vector borne diseases.**

Following table provides the verification of previous week 08<sup>st</sup> to 14<sup>th</sup> January, 2021 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.
08 <sup>th</sup> to 14 <sup>th</sup> Jan 2021	Malaria ( <i>Plasmodium falciparum</i> and <i>Vivax</i> )	33-39 °C	All districts of Goa, major district of Maharashtra, Chhattisgarh, Odisha, some districts of Telangana, Karnataka, few districts of Andhra Pradesh (West Godavari, East Godavari, Vishakhapatnam), Kerala (Kollam, Thiruvananthapuram) and Tamil Nadu (Kanyakumari, Tirunelveli).	Nil
	Malaria ( <i>Plasmodium falciparum</i> )	16-19°C	Major district of Maharashtra, Chhattisgarh, West Bengal, Odisha, Telangana, some district of Gujarat, Tripura, Karnataka, few districts of Madhya Pradesh (Alirajpur, Burhanpur, Barwani), Assam (Dubri), Mizoram (Lunglei), and Andhra Pradesh (Vizianagaram).	All districts of Telangana (except Jogulamba Gadwal, Wanaparthy, Nagarkurnool), major districts of Maharashtra, Karnataka, Odisha, some districts of Gujarat, Chhattisgarh, West Bengal, Andhra Pradesh, few districts of Assam (Baksa), Arunachal Pradesh (Changlang), Madhya Pradesh (Burhanpur), Kerala (Malappuram, Kozikod) and Tamil Nadu (Nilgiri, Dindigul, Krishnagiri).
	Malaria ( <i>Plasmodium vivax</i> )	14-15°C	Some districts of Madhya Pradesh, Jharkhand, Odisha, few districts of Rajasthan (Dungarpur, Banswara), Gujarat (Mehasana, Patan), Chhattisgarh (Kabirdham, Jashpur), Bihar (Madhubani, Supaul, Arariya), West Bengal (Birbhum), Manipur (Chandel) and Mizoram(Aizwal).	Some districts of Gujarat, Madhya Pradesh, Chhattisgarh, Odisha, few districts of Jharkhand (Saraikela, Paschim Singbhum), West Bengal (Bankura, Nadia, Purba Bardhaman), Assam (Kokrajhar), Meghalaya (West Gara Hills) and Mizoram (Lunglei, Mamit).
	Dengue virus	11.9°C	Some districts of Rajasthan, Madhya Pradesh, Bihar, Jharkhand, Assam, Arunachal Pradesh, Manipur, Meghalaya and few districts of Uttar Pradesh (Lalitpur, Kheri).	Major districts of Bihar, Manipur, some districts of Rajasthan, Madhya Pradesh, Jharkhand, West Bengal, Assam, Nagaland, few districts of Uttar Pradesh (Ballia, Sonbhadra), Gujarat (Morbi, Mehsana, Rajkot), Arunachal Pradesh (Lower Subansiri) and Meghalaya (North Garo Hills).