



Climate information for Health

Based on GFS and Extended Range Weather Forecast

(Valid from 08th March to 21st March 2024)

Issued on 08th March, 2024

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

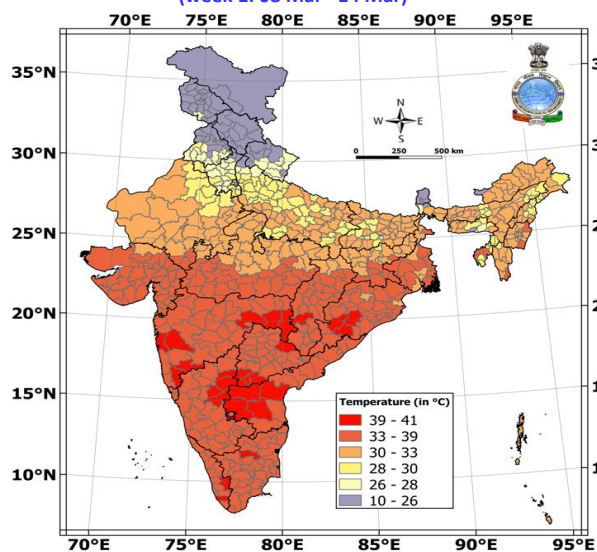
Climate information for coming two weeks is provided for the transmission windows of temperature favorable for development of vector borne diseases like malaria and dengue based on GFS and ERFS.

Weekly Prediction of maximum and minimum temperature

Predicted Maximum Temperature

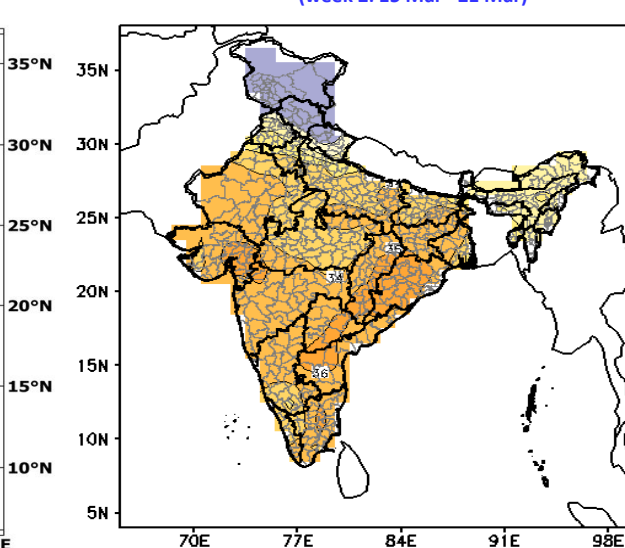
GFS weekly Tmax (°C)

(week 1: 08 Mar–14 Mar)



MME weekly Tmax (°C)

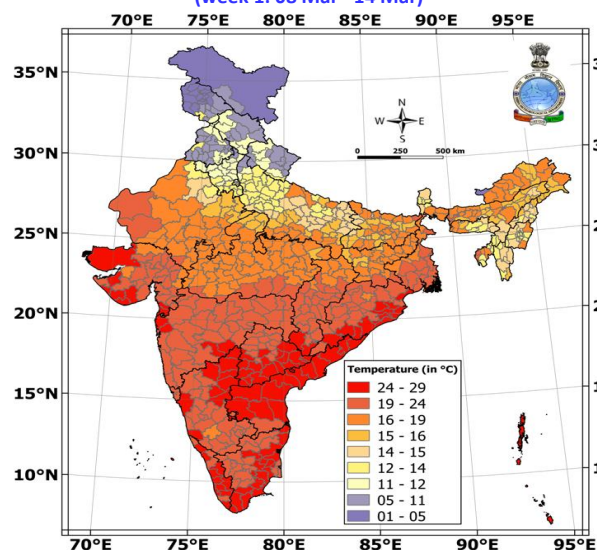
(week 2: 15 Mar–21 Mar)



Predicted Minimum Temperature

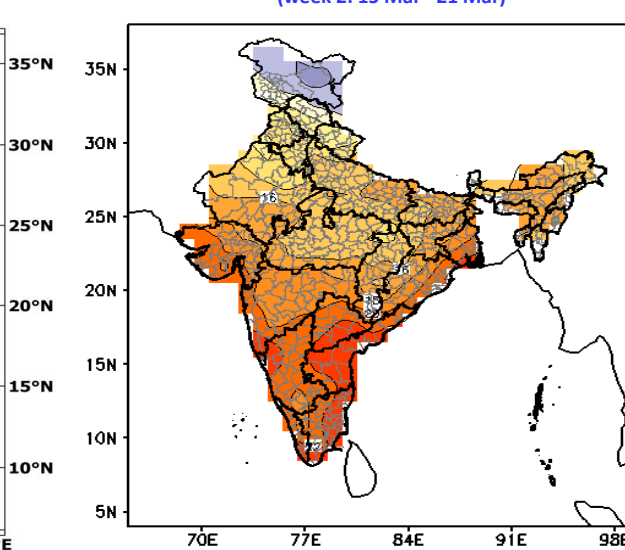
GFS weekly Tmin (°C)

(week 1: 08 Mar–14 Mar)



MME weekly Tmin (°C)

(week 2: 15 Mar–21 Mar)



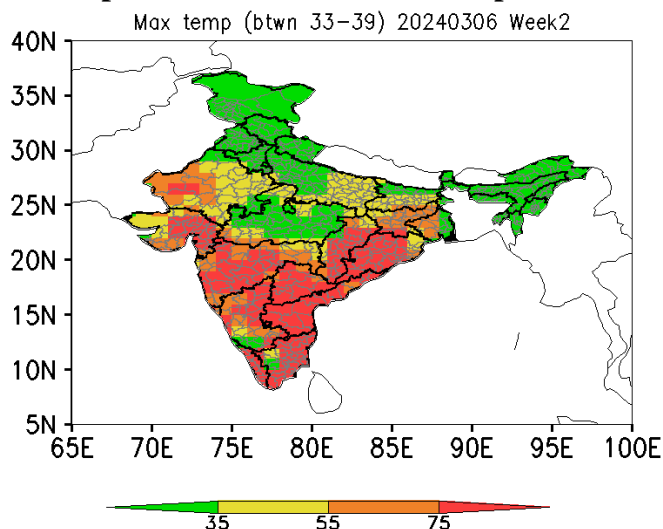
Weather Warning

- Some districts of Maharashtra, Karnataka, Andhra Pradesh, Telangana, few districts of Chhattisgarh (Kanker), Odisha (Kandhamal, Kalhandi, Rayagarha) and Tamil Nadu (Salem) will experience maximum temperature above 39°C during 08th to 14th March 2024.
- Major districts of Jammu & Kashmir, few districts of Ladakh (Leh) and Tawang district of Arunachal Pradesh will experience minimum temperature below 05°C during 08th to 14th March 2024.

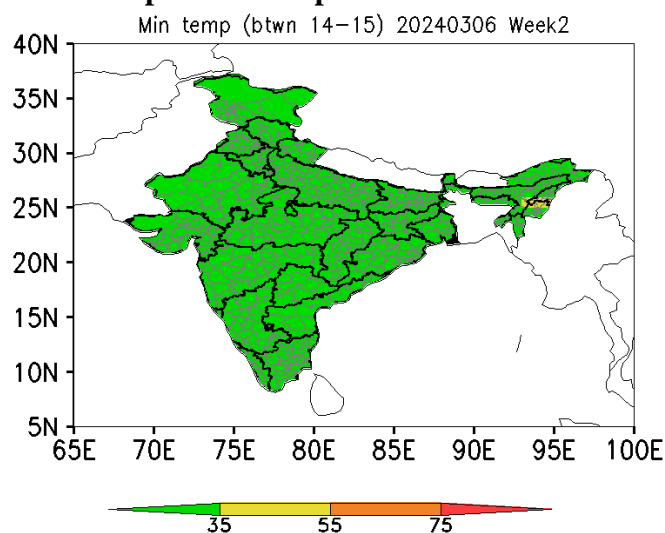
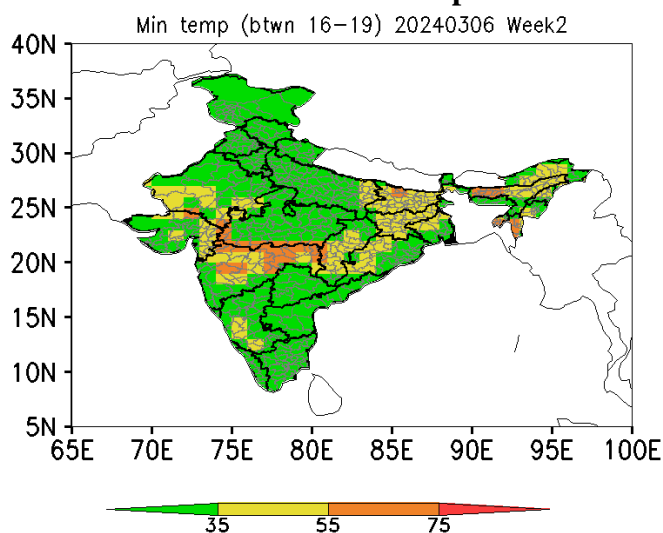
GFS based weekly evolution of transmission window for Malaria and Dengue for Week-I				
Week	VBD	Threshold temp.		Regions within the range of predicted temperatures for Tmax/Tmin or both in Threshold temperatures range.
		Th-Tmax	Th-Tmin	
08 th to 14 th Mar 2024	Malaria (<i>Plasmodium falciparum</i>)	33-39 ⁰ C	16-19 ⁰ C	All districts of Goa, Gujarat (except Banaskantha), Kerala (except Idukki, Kollam), Tamil Nadu (except Salem), major districts of Rajasthan, Madhya Pradesh, Maharashtra, Chhattisgarh, Jharkhand, Arunachal Pradesh, Tripura, Odisha, Telangana, Andhra Pradesh, Karnataka, some districts of Uttar Pradesh, Bihar, West Bengal, Assam, few districts of Meghalaya (South, South-west & West Garo Hills), Manipur (Chandel, Ukhrul) and Mizoram (Saiha).
	Malaria (<i>Plasmodium Vivax</i>)	33-39 ⁰ C	14-15 ⁰ C	All districts of Goa, Gujarat (except Banaskantha), Kerala (except Idukki, Kollam), Tamil Nadu (except Salem), major districts of Madhya Pradesh, Maharashtra, Chhattisgarh, Mizoram, Nagaland, Tripura, Odisha, Telangana, Andhra Pradesh, Karnataka, some districts of Rajasthan, Uttar Pradesh, Bihar, Jharkhand, West Bengal, Assam, Manipur, Meghalaya and few districts of Sikkim (North Sikkim).
	Dengue	Not known	11.9 ⁰ C	Major districts of Haryana, some districts of Himachal Pradesh, Punjab, Uttarakhand, few districts of Jammu & Kashmir (Kathua), Delhi (North, North-west & West Delhi) and Uttar Pradesh (Baghpat, Muzafarnagar).
ERFS based weekly evolution of transmission window for Malaria and Dengue for Week-II				
15 th to 21 st Mar 2024	Malaria (<i>Plasmodium falciparum</i>)	33-39 ⁰ C	16-19 ⁰ C	Gujarat, Madhya Pradesh, Chhattisgarh, Jharkhand, Meghalaya, Manipur, Assam, Arunachal Pradesh, Nagaland, Odisha, Telangana, Maharashtra, Goa, Andhra Pradesh, Tamil Nadu, Kerala major parts of Rajasthan, Uttar Pradesh, Bihar, West Bengal, Karnataka, some parts of Haryana, Tripura and isolated parts of Mizoram.
	Malaria (<i>Plasmodium Vivax</i>)	33-39 ⁰ C	14-15 ⁰ C	Gujarat, Madhya Pradesh, Chhattisgarh, Jharkhand, Odisha, Telangana, Maharashtra, Goa, Andhra Pradesh, Tamil Nadu, Kerala major parts of Rajasthan, Uttar Pradesh, Bihar, West Bengal, Mizoram, Karnataka, some parts of Haryana Arunachal Pradesh, Assam, Nagaland and Tripura.
	Dengue	Not known	11.9 ⁰ C	Major parts of Uttarakhand, some parts of Himachal Pradesh, Punjab, isolated parts of Jammu & Kashmir and Haryana.

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 (15th to 21st Mar 2024):

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

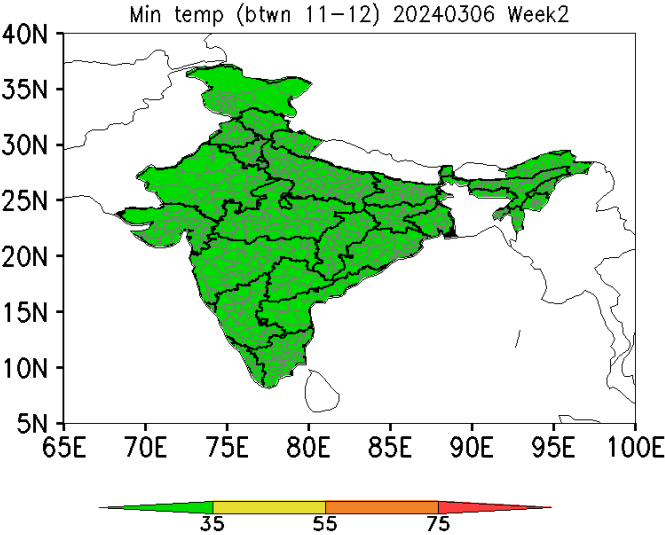
Probabilistic weekly evolution of transmission window for Malaria (<i>Plasmodium vivax</i>)			
Second week (15 th to 21 st Mar 2024):			
1	<u>75</u> probability level		Major districts of Gujarat, Maharashtra, Telangana, Andhra Pradesh, Chhattisgarh, Odisha, Tamil Nadu, Kerala, some districts of Karnataka, few districts of Rajasthan, Madhya Pradesh, Jharkhand and Goa.
2	<u>55-75</u> probability level		Major districts of Jharkhand, some districts of Rajasthan, Gujarat, Bihar, Madhya Pradesh, Maharashtra, Goa, Karnataka, West Bengal, few districts of Odisha, Chhattisgarh, Telangana and Andhra Pradesh.
3	<u>35-55</u> probability level		Some districts of Gujarat, Rajasthan, Uttar Pradesh, Madhya Pradesh, Bihar, Chhattisgarh, Jharkhand, Odisha, Maharashtra, few districts of Haryana, West Bengal, Karnataka and Tamil Nadu.
4	<u>Less than 35</u> 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



Probabilistic weekly evolution of transmission window for Dengue			
Second week (15 th to 21 st Mar 2024):			
1	<u>75</u> probability level		Nil.
2	<u>55-75</u> probability level		Nil.
3	<u>35-55</u> probability level		Nil.
4	<u>Less than 35</u> 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 01st to 07th Mar 2024 weather warning issued for development of vector borne diseases.

Following table provides the verification of previous week 01st to 07th Mar 2024 temperature forecast issued in last week bulletin with realized temperature.

Week	VBD	Threshold temp.	Regions within the range of predicted temperatures for Tmax/Tmin or both in Threshold temperatures range.	Regions within the range of realised temperatures for Tmax/Tmin or both in Threshold temperatures range.
01 st to 07 th Mar 2024	Malaria (<i>Plasmodium falciparum</i> and <i>Vivax</i>)	33-39 °C	All districts of Telangana, Maharashtra (except Mumbai, Palghar), Karnataka (except Udupi), Andhra Pradesh (except Srikakulam, Vizianagaram), Kerala (except Kozikode, Wayanad), Tamil Nadu (except Nilgiri), major districts of Chhattisgarh, Odisha, some districts of Gujarat, few districts of Madhya Pradesh (Burhanpur), Goa (South Goa), West Bengal (North 24 Parganas) and Manipur (Chandel, Ukhrul).	All districts of Telangana, major districts of Maharashtra, Karnataka, Andhra Pradesh, Kerala, Tamil Nadu, some districts of Chhattisgarh, Odisha and few districts Arunachal Pradesh (Tawang).
	Malaria (<i>Plasmodium falciparum</i>)	16-19°C	Major districts of Maharashtra, some districts of Gujarat, Madhya Pradesh, Jharkhand, West Bengal, Assam, Mizoram, Telangana, few districts of Rajasthan (Banswara, Dungarpur, Jaisalmer), Bihar (Araria, Kishanganj), Chhattisgarh (Baloda Bazar, Janjgir Champa), Meghalaya (South, South-west & West Garo Hills), Manipur (Chandel, Ukhrul), Tripura (Dhalai, Khowai), Odisha (Jharsuguda, Sundergarh) and Karnataka (Chikmanglur, Hassan, Mandya).	Major districts of Maharashtra, some districts of Gujarat, Chhattisgarh, Jharkhand, West Bengal, Odisha, Karnataka, few districts of Madhya Pradesh (Balaghat, Burhanpur), Arunachal Pradesh (Tawang), Kerala (Kozikode, Malappuram) and Tamil Nadu (Nilgiri).
	Malaria (<i>Plasmodium vivax</i>)	14-15°C	Major districts of Manipur, some districts of Uttar Pradesh, Bihar, Jharkhand, Chhattisgarh, Madhya Pradesh, Arunachal Pradesh, Assam, few districts of Gujarat (Banaskantha), Meghalaya (East Jaintia Hills), Mizoram (Kolasib), Nagaland (Mokokchung, Mon, Wokha) and Tripura (Unakoti).	All districts of Arunachal Pradesh (except Changlang, Tawang), major districts of Bihar, Assam, some districts of Madhya Pradesh, Chhattisgarh, Jharkhand, few districts of Rajasthan (Banswara, Dungarpur), Gujarat (Dahod, Patan), West Bengal (Alipurduar, Uttar Dinajpur, Kochbihar) and Nagaland (Longleng, Mon).
	Dengue virus	11.9°C	Some districts of Haryana, Delhi, Uttar Pradesh, Rajasthan, few districts of Uttarakhand (Pauri Garhwal), Jharkhand (Lohardaga) and Meghalaya (South-west & East Khasi Hills).	Some districts of Rajasthan, Uttar Pradesh, few districts of Delhi (East Delhi, Shahdara), Meghalaya (East, South-west & West Khasi Hills), Assam (Karimganj) and West Bengal (Darjeeling).