



## Climate information for Health

Based on GFS and Extended Range Weather Forecast

(Valid from 13<sup>th</sup> September to 26<sup>th</sup> September 2024)

Issued on 13<sup>th</sup> September, 2024

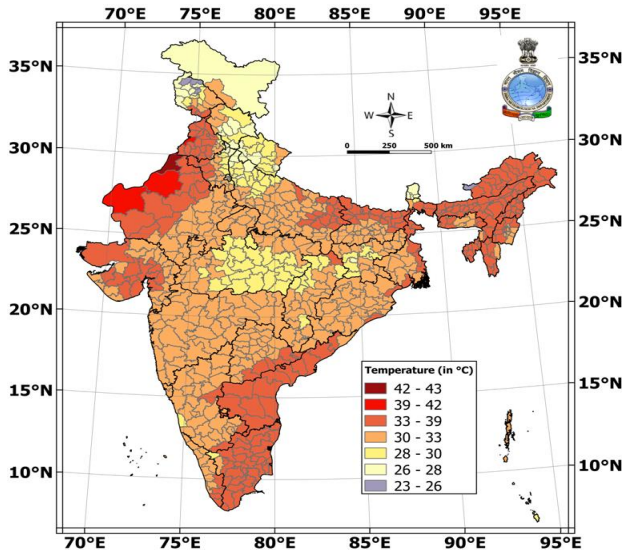
Office of Climate Research and Services, India Meteorological Department, Pune

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.

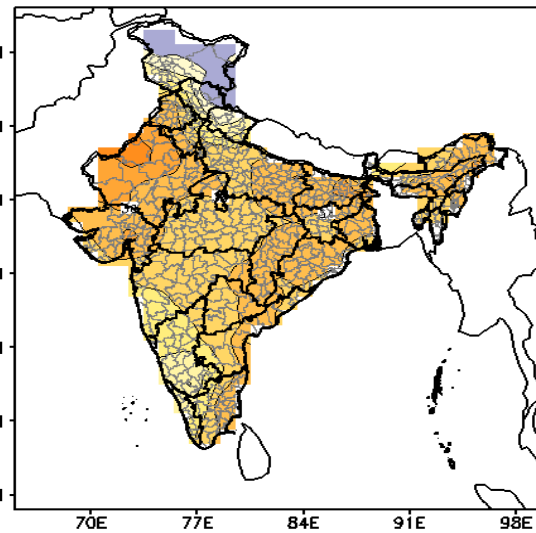
### Weekly Prediction of maximum and minimum temperature

#### Predicted Maximum Temperature

**GFS weekly Tmax (°C)**  
(week 1: 13 Sept – 19 Sept)

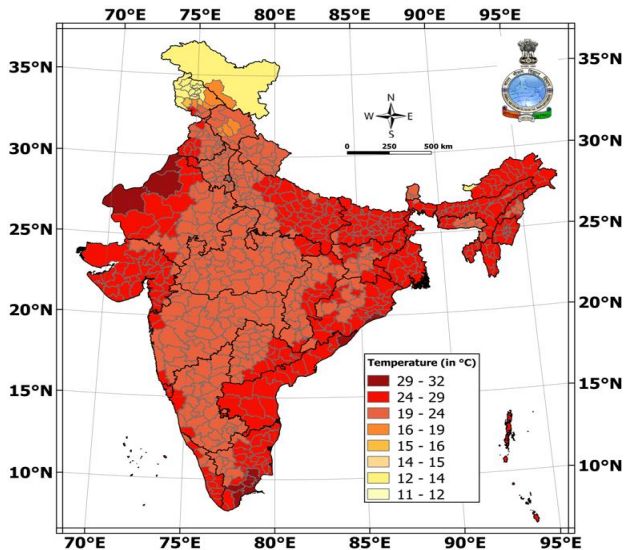


**MME weekly Tmax (°C)**  
(week 2: 20 Sept – 26 Sept)

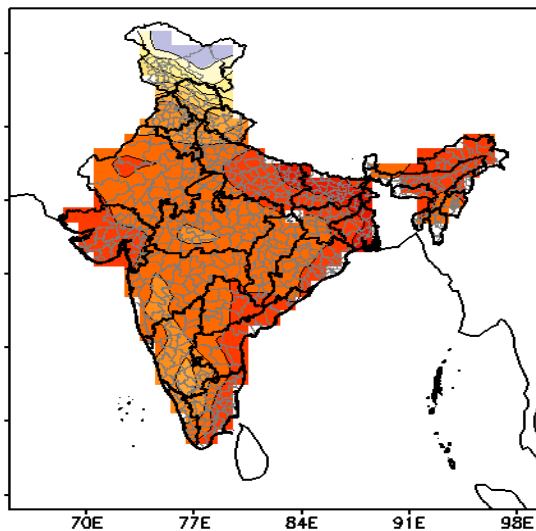


#### Predicted Minimum Temperature

**GFS weekly Tmin (°C)**  
(week 1: 13 Sept – 19 Sept)



**MME weekly Tmin (°C)**  
(week 2: 20 Sept – 26 Sept)



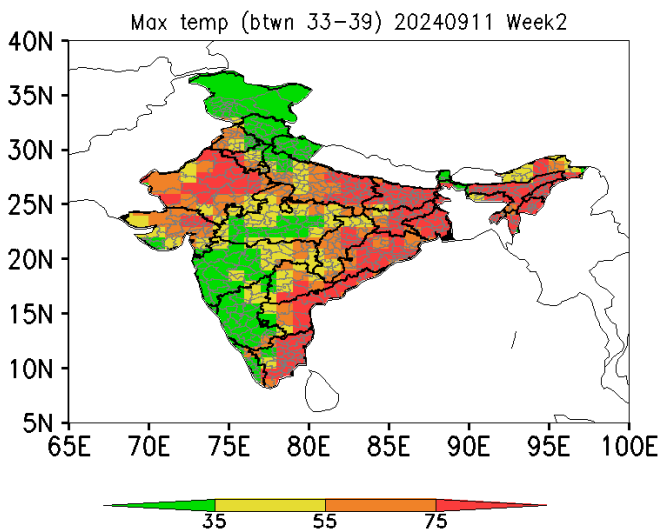
#### Weather Warning

Some districts of Rajasthan and Ferozpur district of Punjab will experience maximum temperature above 39°C during 13<sup>th</sup> to 19<sup>th</sup> September 2024.

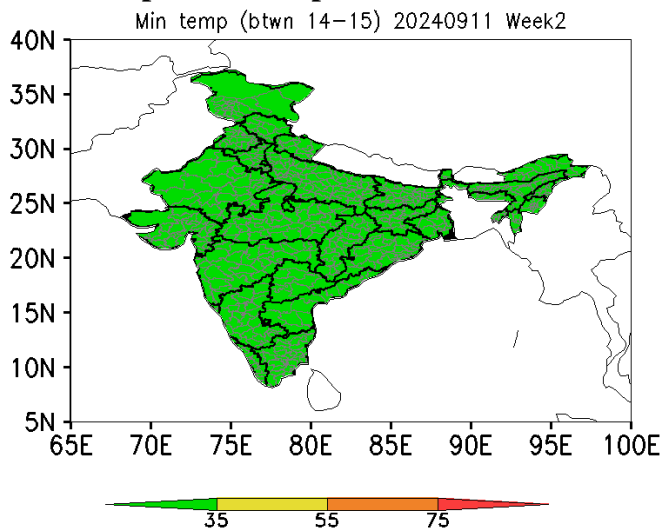
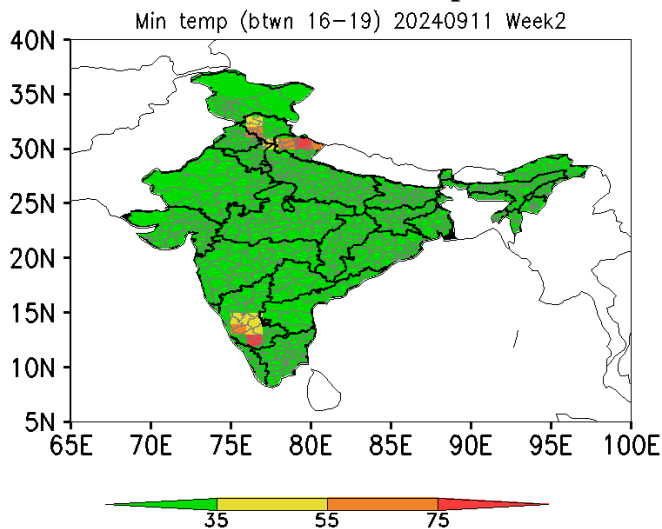
GFS based weekly evolution of transmission window for Malaria and Dengue for Week-I				
Week	VBD	Threshold temp.		Regions within the range of predicted temperatures for Tmax/Tmin or both in Threshold temperatures range.
		Th-Tmax	Th-Tmin	
13 <sup>th</sup> to 19 <sup>th</sup> Sept 2024	Malaria ( <i>Plasmodium falciparum</i> )	33-39 <sup>0</sup> C	16-19 <sup>0</sup> C	All districts of Nagaland, Tripura, Mizoram (except Champhai), Assam (except Karimganj), Arunachal Pradesh (except Tawang), Andhra Pradesh (except Srikakulam), Tamil Nadu (except Nilgiri, Coimbatore), major districts of Punjab, Meghalaya, some districts of Jammu & Kashmir. Himachal Pradesh, Haryana, Rajasthan, Gujarat, Uttar Pradesh, Bihar, Manipur, West Bengal, Telangana, Kerala, few districts of Ladakh (Kargil), Chhattisgarh (Balarampur), Odisha (Baleshwar, Puri) and Karnataka (Bellary, Chamarajanagar, Kolar).
	Malaria ( <i>Plasmodium Vivax</i> )	33-39 <sup>0</sup> C	14-15 <sup>0</sup> C	All districts of Nagaland, Tripura, Mizoram (except Champhai), Assam (except Karimganj), Arunachal Pradesh (except Tawang), Andhra Pradesh (except Srikakulam), Tamil Nadu (except Nilgiri, Coimbatore), major districts of Punjab, Meghalaya, some districts of Haryana, Rajasthan, Gujarat, Uttar Pradesh, Bihar, Manipur, West Bengal, Telangana, Kerala, few districts of Jammu & Kashmir (Kathua, Jammu, Samba), Chhattisgarh (Balarampur), Odisha (Baleshwar, Puri) and Karnataka (Bellary, Chamarajanagar, Kolar).
	Dengue	Not known	11.9 <sup>0</sup> C	Nil.
ERFS based weekly evolution of transmission window for Malaria and Dengue for Week-II				
20 <sup>th</sup> to 26 <sup>th</sup> Sept 2024	Malaria ( <i>Plasmodium falciparum</i> )	33-39 <sup>0</sup> C	16-19 <sup>0</sup> C	Rajasthan, Gujarat, Madhya Pradesh, Bihar, Chhattisgarh, Jharkhand, North Eastern States, Odisha, Telangana, major parts of Himachal Pradesh, Uttarakhand, Punjab, Haryana, Uttar Pradesh, West Bengal, Maharashtra, Andhra Pradesh, Tamil Nadu, some parts of Jammu & Kashmir, Karnataka and isolated parts of Kerala.
	Malaria ( <i>Plasmodium Vivax</i> )	33-39 <sup>0</sup> C	14-15 <sup>0</sup> C	Rajasthan, Gujarat, Madhya Pradesh, Bihar, Chhattisgarh, Jharkhand, North Eastern States, Odisha, Telangana, major parts of Punjab, Haryana, Uttar Pradesh, West Bengal, Maharashtra, Andhra Pradesh, Tamil Nadu, some parts of Jammu & Kashmir, Himachal Pradesh, Karnataka and isolated parts of Kerala.
	Dengue	Not known	11.9 <sup>0</sup> C	Some parts of Ladakh.

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 (20<sup>th</sup> to 26<sup>th</sup> Sept 2024):**

1	<b>75</b> probability level		Nagaland, Manipur, Major districts of Bihar, Assam, Mizoram, Tripura, Meghalaya, West Bengal, Jharkhand, Odisha, Andhra Pradesh, Tamil Nadu, some districts of Haryana, Rajasthan, Gujarat, Uttar Pradesh, Chhattisgarh, few districts of Himachal Pradesh, Arunachal Pradesh, Telangana, Karnataka and Kerala.
2	<b>55-75</b> probability level		Some districts of Himachal Pradesh, Uttarakhand, Punjab, Haryana, Rajasthan, Gujarat, Madhya Pradesh, Uttar Pradesh, Jharkhand, Chhattisgarh, Odisha, Telangana, Andhra Pradesh, Maharashtra, Karnataka, Tamil Nadu, few districts of Jammu & Kashmir, Bihar, Assam, Arunachal Pradesh, Mizoram, Tripura, West Bengal and Kerala.
3	<b>35-55</b> probability level		Some districts of Himachal Pradesh, Punjab, Haryana, Uttar Pradesh, Arunachal Pradesh, Meghalaya, Chhattisgarh, Madhya Pradesh, Rajasthan, Gujarat, Maharashtra, Karnataka, Telangana, few districts of Jammu & Kashmir, Uttarakhand, Bihar, Jharkhand, Andhra Pradesh and Kerala.
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 (20<sup>th</sup> to 26<sup>th</sup> Sept 2024):**

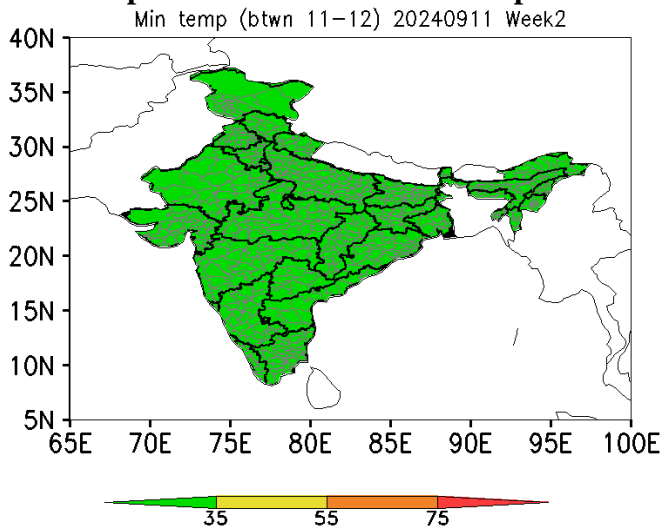
1	<b>75</b> probability level		Nagaland, Manipur, Major districts of Bihar, Assam, Mizoram, Tripura, Meghalaya, West Bengal, Jharkhand, Odisha, Andhra Pradesh, Tamil Nadu, some districts of Haryana, Rajasthan, Gujarat, Uttar Pradesh, Chhattisgarh, few districts of Arunachal Pradesh, Telangana and Kerala.
2	<b>55-75</b> probability level		Some districts of Punjab, Haryana, Rajasthan, Gujarat, Madhya Pradesh, Uttar Pradesh, Jharkhand, Chhattisgarh, Odisha, Telangana, Andhra Pradesh, Maharashtra, Karnataka, Tamil Nadu, few districts of Jammu & Kashmir, Bihar, Assam, Arunachal Pradesh, Mizoram, Tripura, West Bengal and Kerala.
3	<b>35-55</b> probability level		Some districts of Punjab, Haryana, Uttar Pradesh, Arunachal Pradesh, Meghalaya, Chhattisgarh, Madhya Pradesh, Rajasthan, Gujarat, Maharashtra, Karnataka, Telangana, few districts of Jammu & Kashmir, Himachal Pradesh, Bihar, Jharkhand, Andhra Pradesh and Kerala.
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**



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

**Second week (20<sup>th</sup> to 26<sup>th</sup> Sept 2024):**

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 districts 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 06<sup>th</sup> to 12<sup>th</sup> September 2024 weather warning issued for development of vector borne diseases.**

Following table provides the verification of previous week 06<sup>th</sup> to 12<sup>th</sup> September 2024 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.
06 <sup>th</sup> to 12 <sup>th</sup> Sept 2024	Malaria ( <i>Plasmodium falciparum</i> and <i>Vivax</i> )	33-39 °C	All districts of Delhi, Bihar, Manipur, Mizoram, Nagaland, Tripura, Haryana (except Ambala, Panchkula, Yamunanagar), Uttar Pradesh (except Lalitpur, Prabudhnagar, Saharanpur), West Bengal (except Darjeeling, Kalimpong), Arunachal Pradesh (except Tawang), Assam (except Kamrup Metro, Karimganj), major districts of Punjab, Rajasthan, Jharkhand Meghalaya, Tamil Nadu, some districts of Madhya Pradesh, Chhattisgarh, Odisha, Andhra Pradesh, few districts of Jammu & Kashmir (Kathua, Jammu, Samba), Himachal Pradesh (Kangra, Una), Uttarakhand (Pauri Garhwal, Udham Singh Nagar), Gujarat (Kachchh), Karnataka (Chamarajanagar) and Kerala (Kollam).	All districts of Nagaland (except Kiphire, Tuensang), Manipur (except Chandel), Mizoram (except Kolasib), major districts of Bihar, Tamil Nadu, some districts of Rajasthan, Arunachal Pradesh, West Bengal and few districts of Uttar Pradesh, (Deoria), Jharkhand (Sahebganj), Meghalaya (South West Garo Hills), Andhra Pradesh (Nellore).
	Malaria ( <i>Plasmodium falciparum</i> )	16-19°C	Some districts of Jammu & Kashmir, Himachal Pradesh and Kargil district of Ladakh.	Major districts of Himachal Pradesh, few districts of Jammu & Kashmir (Doda, Jammu, Udhampur), Uttarakhand (Chamoli), Arunachal Pradesh (Tawang), Manipur (Chandel), Karnataka (Hassan, Mysore) and Tamil Nadu (Coimbatore, Nilgiri).
	Malaria ( <i>Plasmodium vivax</i> )	14-15°C	Some districts of Jammu & Kashmir and Leh district of Ladakh.	Ramban districts of Jammu & Kashmir.
	Dengue virus	11.9°C	Nil.	Some districts of Jammu & Kashmir.