



Climate information for Health

(Experimental basis)

Based on GFS and Extended Range Weather Forecast
(Valid from 18th September to 01st October, 2020)

Issued on 18th September, 2020

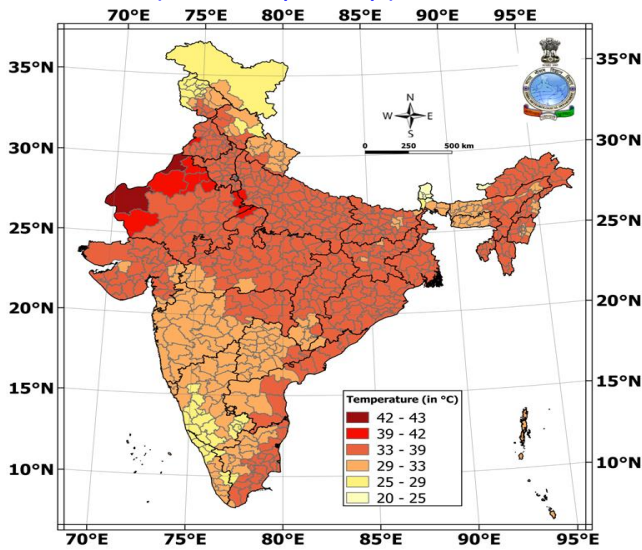
Office of Climate Research and Services, India Meteorological Department, Pune

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.

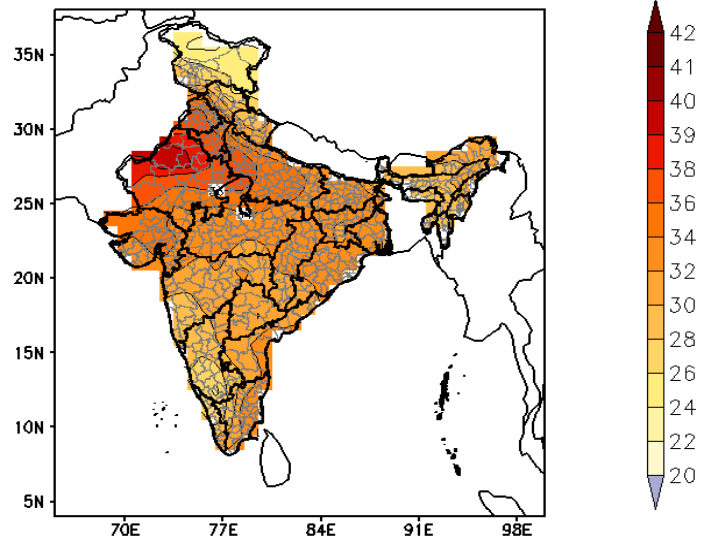
Weekly Prediction of maximum and minimum temperature

Predicted Maximum Temperature

GFS weekly Tmax (°C)
(week 1: 18 Sept – 24 Sept)

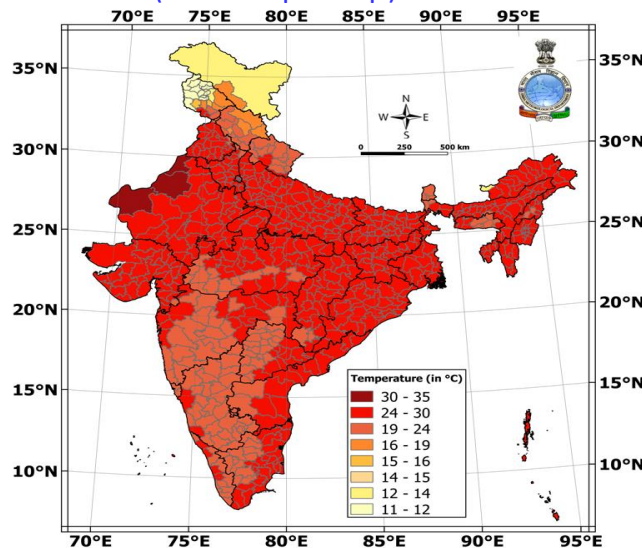


MME weekly Tmax (°C)
(week 2: 25 Sept – 01 Oct)

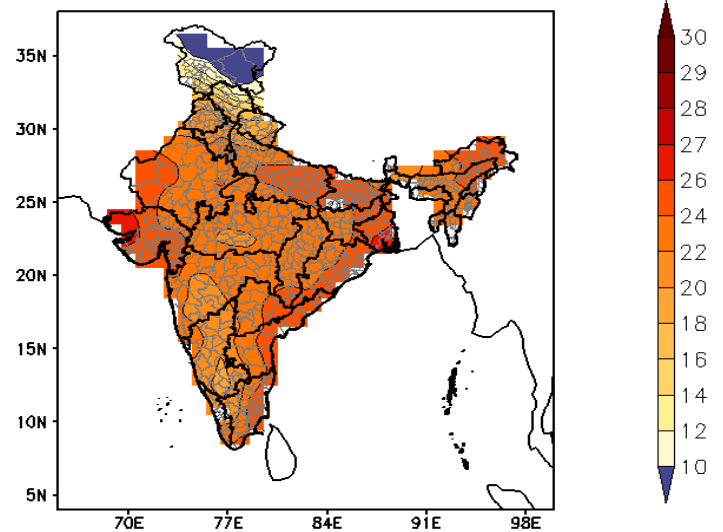


Predicted Minimum Temperature

GFS weekly Tmin (°C)
(week 1: 18 Sept – 24 Sept)



MME weekly Tmin (°C)
(week 2: 25 Sept – 01 Oct)



Weather Warning

- Rajasthan (Jaisalmer & Sri Ganganagar) will experience maximum temperature above 42°C during 18th to 24th September, 2020.

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

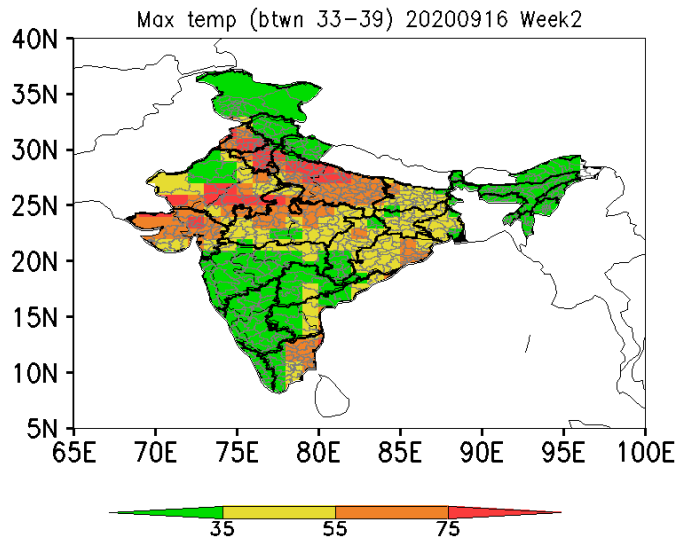
Week	VBD	Threshold temp.		Regions within the range of predicted temperatures for Tmax/Tmin or both in Threshold temperatures range.
		Th-Tmax	Th-Tmin	
18 th Sept to 24 th Sept 2020	Malaria (<i>Plasmodium falciparum</i>)	33-39 ^o C	16-19 ^o C	All districts of Haryana, Mizoram, Punjab (except Firozpur), Uttar Pradesh (except Mathura), Jharkhand (except Kodarma, Lohardaga), Arunachal Pradesh (except Tawang), Nagaland (except Longleng, Tuensang, Kiphire), Tripura (except Unakoti), Odisha (expect Malkangiri), major districts of Gujarat, Rajasthan, Madhya Pradesh, Chhattisgarh, Bihar, Assam, Manipur, West Bengal, Andhra Pradesh, Tamil Nadu, some districts of Jammu & Kashmir, Himachal Pradesh, Maharashtra, few districts of Ladakh (Kargil), Uttarakhand (Pauri, Garhwal, Haridwar, Udham Singh Nagar), Meghalaya (East and West Jaintia Hills) and Telangana (Bhadrari Kothagudem, Khammam).
	Malaria (<i>Plasmodium Vivax</i>)	33-39 ^o C	14-15 ^o C	All districts of Haryana, Mizoram, Punjab (except Firozpur), Uttar Pradesh (except Mathura), Jharkhand (except Kodarma, Lohardaga), Arunachal Pradesh (except Tawang), Nagaland (except Longleng, Tuensang, Kiphire), Tripura (except Unakoti), Odisha (expect Malkangiri), major districts of Gujarat, Rajasthan, Madhya Pradesh, Chhattisgarh, Bihar, Assam, Manipur, West Bengal, Andhra Pradesh, Tamil Nadu, some districts of Jammu & Kashmir, Himachal Pradesh, Maharashtra, few districts of Uttarakhand (Pauri, Garhwal, Haridwar, Udham Singh Nagar), Meghalaya (East and West Jaintia Hills), and Telangana (Bhadrari Kothagudem, Khammam).
	Dengue	Not known	11.9 ^o C	Major districts of Jammu & Kashmir (Kulgam, Punch, Mirpur, Shupiyan, Baramula, Badgam, Bandipore, Kupwara, Muzaffarabad, Srinagar, Ganderbal, Pulwama)

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

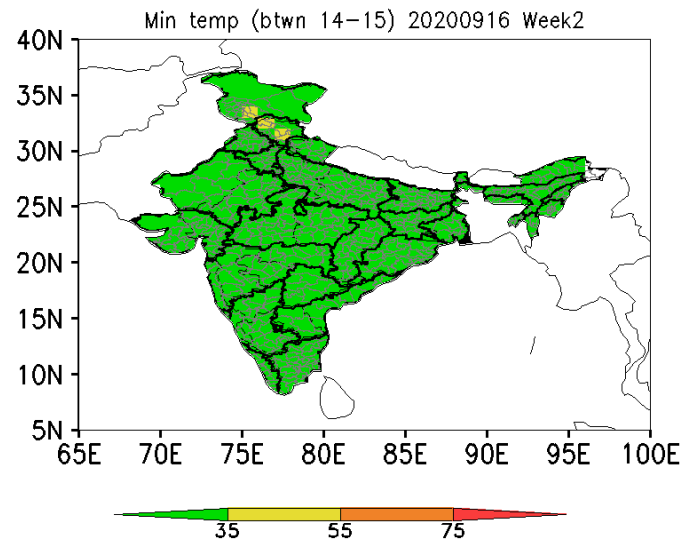
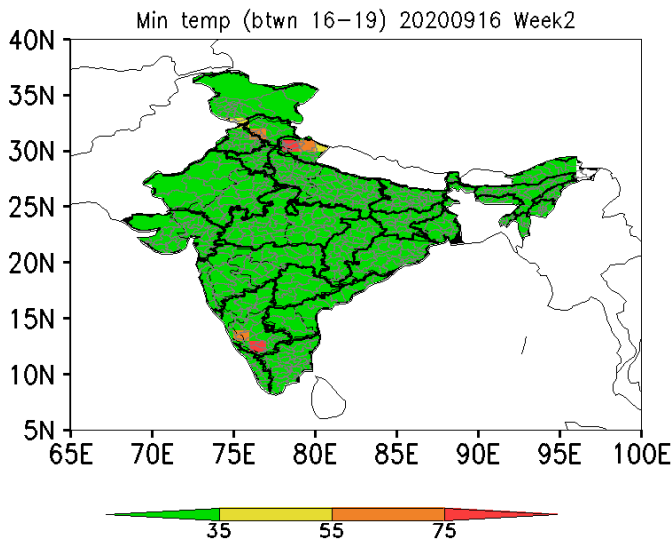
25 th Sept to 01 st Oct 2020	Malaria (<i>Plasmodium falciparum</i>)	33-39 ^o C	16-19 ^o C	Punjab, Haryana, Gujarat, Uttar Pradesh, major parts of Uttarakhand, Bihar, Rajasthan, Madhya Pradesh, Chhattisgarh, Jharkhand, West Bengal, Odisha, some parts of Himachal Pradesh, Andhra Pradesh, Tamil Nadu, isolated parts of Maharashtra and Karnataka.
	Malaria (<i>Plasmodium Vivax</i>)	33-39 ^o C	14-15 ^o C	Punjab, Haryana, Gujarat, Uttar Pradesh, major parts of Rajasthan, Madhya Pradesh, Bihar, Chhattisgarh, Jharkhand, West Bengal, Odisha, some parts of Jammu & Kashmir, Himachal Pradesh, Andhra Pradesh, Tamil Nadu, isolated parts of Himachal Pradesh and Maharashtra.
	Dengue	Not known	11.9 ^o C	Some parts of Jammu & Kashmir and isolated parts of 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 (25th Sept to 01st Oct 2020):

1	75 probability level	Major districts of Haryana, some districts of Uttarakhand, Punjab, Uttar Pradesh, Rajasthan, few districts of Gujarat, Madhya Pradesh, Karnataka and Tamil Nadu.
2	55-75 probability level	Major districts of Uttar Pradesh, some districts of Himachal Pradesh, Uttarakhand, Punjab, Rajasthan, Gujarat, Madhya Pradesh, Odisha, Tamil Nadu, few districts of Haryana, Bihar, Chhattisgarh, Karnataka and Andhra Pradesh.
3	35-55 probability level	Major districts of Bihar, Madhya Pradesh, Jharkhand, West Bengal, Odisha, some districts of Rajasthan, Gujarat, Maharashtra, Chhattisgarh, Andhra Pradesh, Tamil Nadu, few districts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Uttar Pradesh and Telangana.
4	Less than 35 probability level	Major districts in rest of states.

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

Second week (25th Sept to 01st Oct 2020):

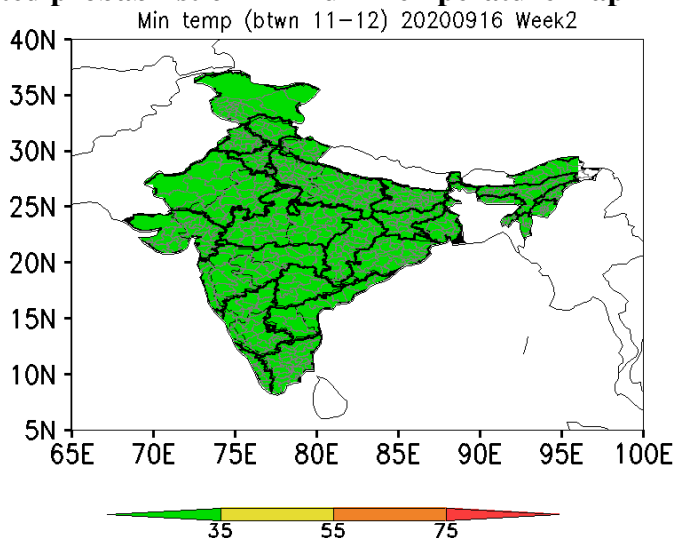
1	75 probability level	Major districts of Haryana, some districts of Punjab, Uttar Pradesh, Rajasthan, few districts of Gujarat, Madhya Pradesh and Tamil Nadu.
2	55-75 probability level	Major districts of Uttar Pradesh, some districts of Punjab, Rajasthan, Gujarat, Madhya Pradesh, Odisha, Tamil Nadu, few districts of Haryana, Bihar, Chhattisgarh and Andhra Pradesh.
3	35-55 probability level	Major districts of Bihar, Madhya Pradesh, Jharkhand, West Bengal, Odisha, some districts of Himachal Pradesh, Rajasthan, Gujarat, Maharashtra, Chhattisgarh, Andhra Pradesh, Tamil Nadu, few districts of Jammu & Kashmir, Punjab, Haryana, Uttar Pradesh and Telangana.
4	Less than 35 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 (25th Sept to 01st Oct 2020):

1	75 probability level	Nil.
2	55-75 probability level	Nil.
3	35-55 probability level	Nil.
4	Less than 35 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 11th September to 17th September, 2020 weather warning issued for development of vector borne diseases

Following table provides the verification of previous week 11thSeptember to 17th September, 2020 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.
11 th Sept to 17 th Sept 2020	Malaria (<i>Plasmodium falciparum</i> and <i>Vivax</i>)	33-39 °C	All districts of Uttar Pradesh, Bihar, Punjab (except Ferozpur, Rupnagar, Pathankot), Haryana (except Yamunanagar, Panchkula), Jharkhand (except Lohardaga), Mizoram (except Kolasib, Champhai), Odisha(except Malkangiri), major districts of Gujarat, Rajasthan, Madhya Pradesh, Chhattisgarh, West Bengal, Tripura, Andhra Pradesh, Tamil Nadu, some districts of Maharashtra, few districts of Jammu & Kashmir (Jammu, Samba, Kathua), Uttarakhand (Pauri, Garhwal, Haridwar), Assam (N.C.Hills) and Manipur (Chandel, Tamenglong).	Major districts of Haryana, Rajasthan, Uttar Pradesh, West Bengal, some districts of Punjab, Madhya Pradesh, Odisha, Tamil Nadu, few districts of Maharashtra (Chandrapur), Chhattisgarh (Mahasamund), Jharkhand (Saraikela, Purbi Singhbhum), Assam (Baksa) and Arunachal Pradesh (Tawang).
	Malaria (<i>Plasmodium falciparum</i>)	16-19°C	Some districts of Jammu & Kashmir (Rajouri, Kishtwar, Doda, Riasi), Himachal Pradesh (Kinnaur, Hamirpur, Lahul & Spiti, Bilaspur), few district of Ladakh (Kargil) and Sikkim (North)	All districts of Sikkim, some districts of Himachal Pradesh, few districts of Jammu & Kashmir (Udhampur, Doda), Uttarakhand (Chamoli, Uttarkashi), West Bengal (Kalimpong), Karnataka (Chamrajnagar, Mysore), Kerala (Kozikode, Malappuram) and Tamil Nadu (Nilgiris).
	Malaria (<i>Plasmodium vivax</i>)	14-15°C	_____	Riasi districts of Jammu & Kashmir.
	Dengue virus	11.9°C	Some districts of Jammu & Kashmir (Bandipore, Kupwara, Pulwama, Shupiyan, Badgam, Kulgam, Baramula, Ganderbal, Srinagar)	Few districts of Jammu & Kashmir (Anantnag, Kulgam, Shopian) and Ladakh (Kargil).