



DISTRICT WISE CLIMATE CHANGE INFORMATION FOR THE STATE OF TAMIL NADU TEMPERATURE PROJECTIONS FOR CHENNAI



1.1 About Chennai

The **Chennai district** formerly known as Madras district is the smallest of all districts in the State, but has the highest human density. Chennai district covers an area of 178.2 km² located on the Eastern Coastal Plains of India. It lies between 12°59' and 13°9' of the Northern latitude and 80°12' and 80°19' of the Eastern longitude at an average altitude of 6 meters above sea level on a 'sandy shelving breaker swept' beach.^{1,3}

1.2 Climate of Chennai

Chennai has a tropical wet and dry climate. The city lies on the thermal equator and is also on the coast, which prevents extreme variation in seasonal temperature². The hottest part of the year is late May to early June, known regionally as *AgniNakshatram*, with maximum temperatures around 35–40 °C. The coolest part of the year is January, with minimum temperatures around 15–22 °C. The lowest recorded temperature was 13.8 °C on 11 December 1895 and 29 January 1905. The highest recorded temperature was 45 °C on 30 May 2003.³

1.3 Temperature Projections for Chennai

The annual maximum and minimum temperature normal (1970-2000) of the district are 33.0°C and 24.5°C respectively.⁴ Projections of maximum temperature over Chennai for the periods 2010-2040 (2020s), 2040-2070 (2050s) and 2070-2100 (2080s) with reference to the baseline (1970-2000) indicate an increase of **0.9°C**, **1.9°C** and **2.9°C** respectively. Similarly, the projections of minimum

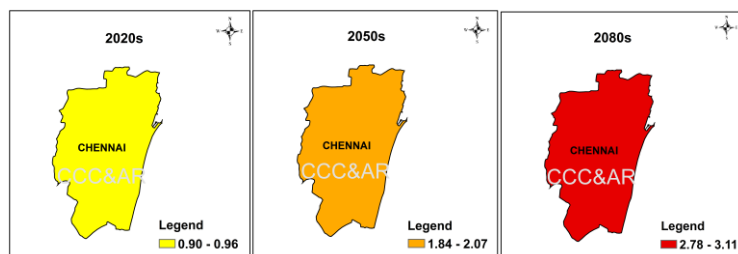


Fig 1.1 Changes in Max. Temperature for 2020s, 2050s & 2080s

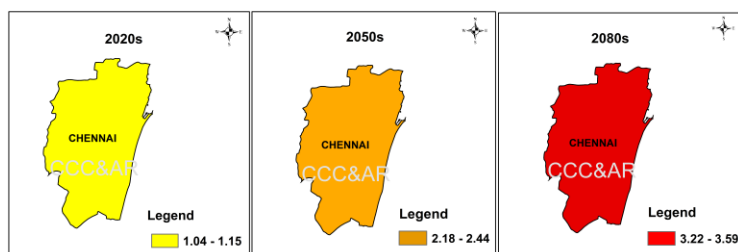


Fig 1.2 Changes in Min. Temperature for 2020s, 2050s & 2080s

Table 1.1 Changes in Temperature

Parameter	2020s	2050s	2080s
Maximum Temperature	+0.9°C	+1.9°C	+2.9°C
Minimum Temperature	+1.1°C	+2.2°C	+3.3°C

temperature for the same periods indicate an increase of **1.1°C**, **2.2°C** and **3.3°C** respectively.

1.4 Key Findings

The average change of maximum and minimum temperature for Chennai are expected to increase by **2.9°C** and **3.3°C** respectively by the end of the century.

1.5 References

- <http://www.chennai.tn.nic.in/chndistprof.htm>
- <http://www.chennai.climatemps.com/>
- ENVIS 2015. Chennai District. ENVIS Centre Tamilnadu, Available at tnenvis.nic.in/files/CHENNAI.pdf
- IMD, 2013. Temperature of Chennai District. Regional Meteorological Centre, Chennai.