

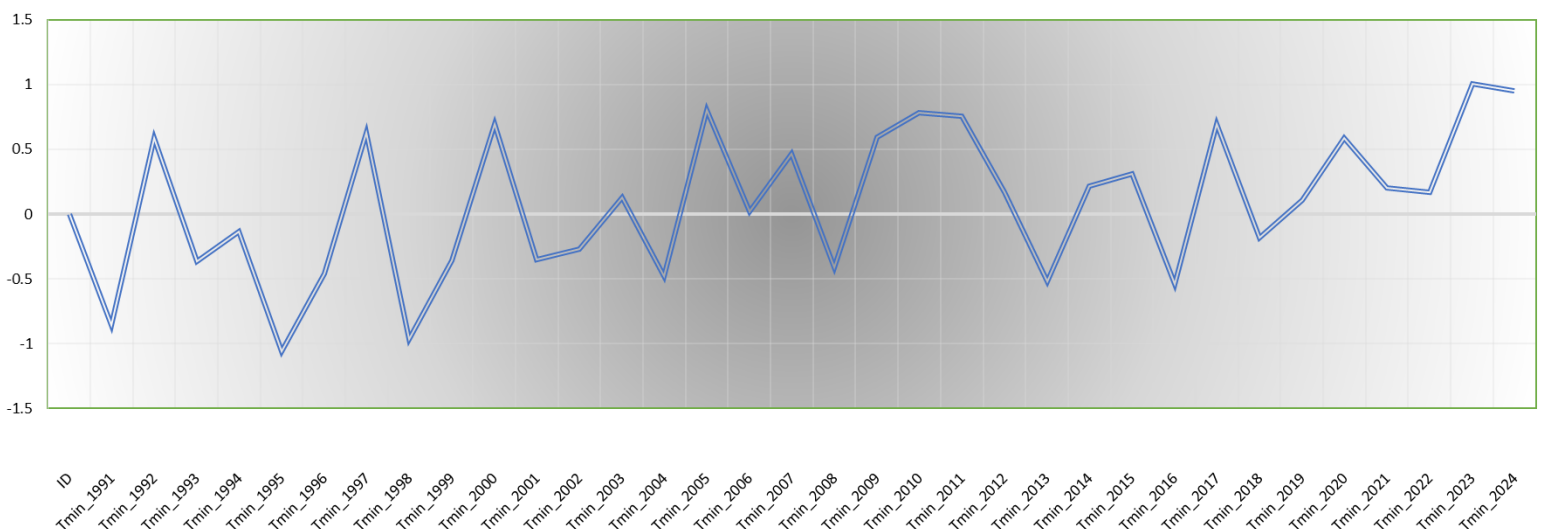


MINISTRY OF NATURAL
RESOURCES AND CLIMATE
CHANGE

DEPARTMENT OF CLIMATE CHANGE
AND METEOROLOGICAL SERVICES

CLIMATE INFORMATION NEWS

June 2024 Minimum Temperature



OBSERVED JUNE MINIMUM TEMPERATURE ANOMALY FROM 1991 TO 2024

In June 2024, the average minimum temperature anomaly was $+0.95^{\circ}\text{C}$, marking it as one of the warmest Junes on record. This substantial deviation from the norm signifies an ongoing trend of rising minimum temperatures during this period. The data indicates that **2024 is the second hottest June** in terms of minimum temperature anomalies, only surpassed by June 2023, which saw an average anomaly of $+1.00^{\circ}\text{C}$. This consistent increase in minimum temperatures during June underscores the broader patterns of climate change affecting the region.

SUMMARY

KEY FINDINGS

2024 is the second hottest June in terms of minimum temperature anomalies, only surpassed by June 2023

TEMPERATURE TRENDS

warming trend of June minimum temperatures over the years

STATION TRENDS

The warming trend varies from year to year and station to station

Temperature Trends

- The data indicates a clear **warming trend in June** minimum temperatures over the years. The most recent years, especially 2023 and 2024, show unprecedented warmth with anomalies reaching $+1.00^{\circ}\text{C}$ and $+0.95^{\circ}\text{C}$, respectively. This trend suggests that Malawi is experiencing progressively warmer nights in June, which could have far-reaching implications for agriculture, water resources, and energy demand.
- The year **2023 stands out as the warmest year** on record for June minimum temperatures in Malawi since 1991, with an anomaly of $+1.00^{\circ}\text{C}$. This indicates that the minimum temperatures in June 2023 were 1.00°C higher than the long-term average, marking a significant deviation from typical conditions. Such a substantial anomaly suggests that Malawi experienced exceptionally warm nights during this period, which can have various environmental and socio-economic impacts.
- Conversely, the year **1995 was the coldest**, with a June minimum temperature anomaly of -1.06°C . This indicates that the minimum temperatures in June 1995 were 1.06°C below the long-term average.

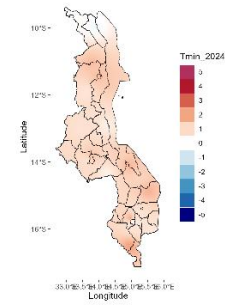
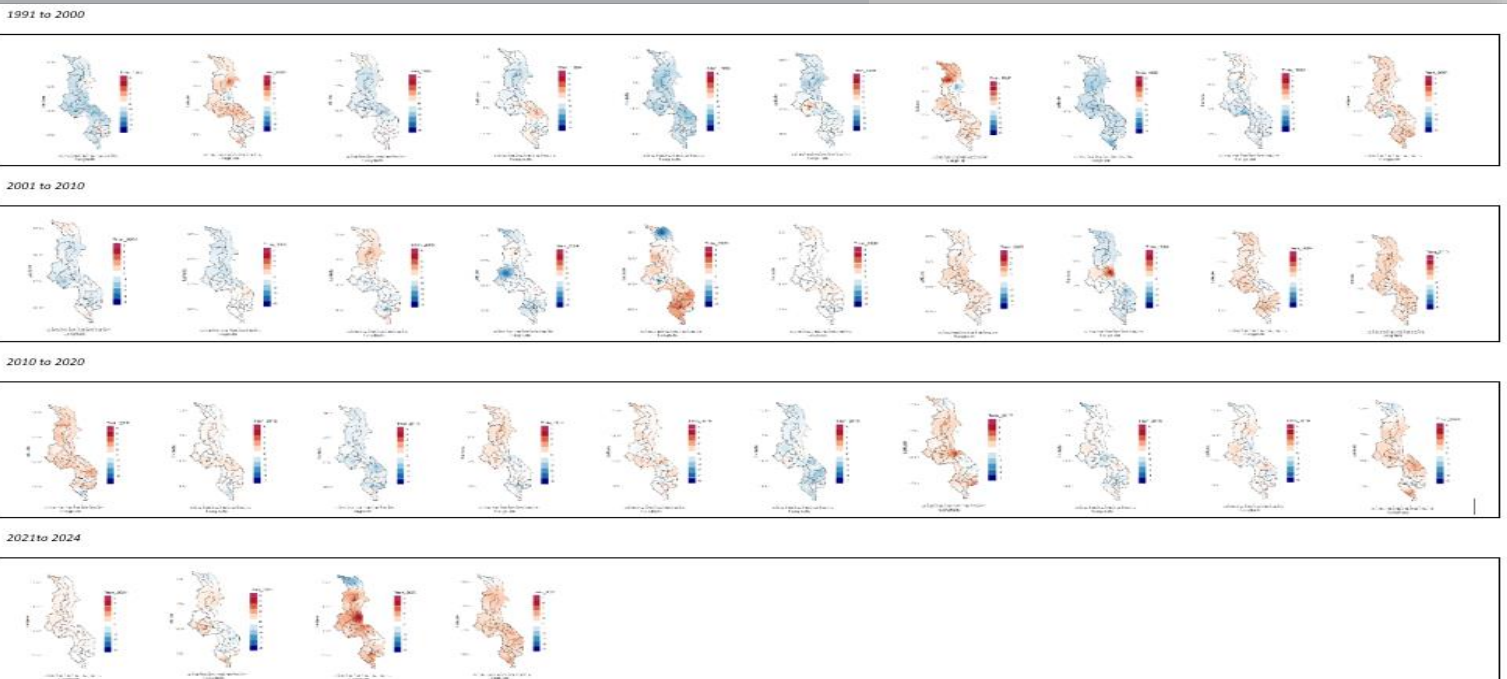


Figure 1: June 2024 Minimum Temperature anomaly

Analyzing the national trend line for minimum temperatures in Malawi from 1991 to 2024 reveals a gradual warming trend over the past few decades. The data indicates a consistent increase in minimum temperatures across the country, particularly evident in recent years. This upward trend suggests a shift towards warmer nights, which is consistent with global climate change patterns. The warming is not uniform across all locations, with some areas experiencing more pronounced increases than others. Despite some year-to-year fluctuations, the overall trend points to a rise in minimum temperatures, reflecting broader regional and global warming trends. This national trend has significant implications for agricultural practices, water resources management, and the overall climate resilience of Malawi. Adaptation and mitigation strategies will be crucial to address the challenges posed by this ongoing temperature increase.



June Temperature Trends for selected stations:

- **Bolero** shows a general fluctuation in minimum temperatures, with some years experiencing significant deviations (e.g., 1997 with +4.0°C and 2024 with +1.5°C).
- **Bvumbwe** has relatively stable temperatures but also shows notable variations, such as a peak of +3.0°C in 2022.
- **Chichiri** exhibits considerable temperature changes, with a peak in 2004 (+4.0°C) and several years with negative temperatures.
- **Chileka** shows variation, including years with higher temperatures like 2010 (+1.7°C) and lower temperatures like 1995 (-1.7°C).
- **Chitedze** features fluctuations with notable peaks and troughs, including a high in 2023 (+1.7°C) and a low in 1991 (-1.8°C).
- **Chitipa** has varied temperatures with a high in 1997 (2.3°C) and a low in 2022 (-2.7°C).
- **Dedza** shows a similar pattern with fluctuations and peaks like 2011 (1.4°C).
- **Karonga** demonstrates variability, with a notable peak in 2010 (1.2°C) and a significant low in 2004 (-4.0°C).
- **Kasungu** has a range of temperatures with a high in 1997 (1.6°C) and a low in 2003 (-3.9°C).
- **KIA** shows fluctuations with a peak in 1995 (+2.0°C) and a low in 1997 (-2.2°C).
- **Makoka** features variability, including a high in 1991 (+1.8°C) and lows like 2008 (-1.3°C).
- **Mangochi** exhibits changes, with a peak in 1992 (+1.7°C) and a low in 1995 (-2.0°C).
- **Mimosa** has a range of temperatures with a high in 2003 (+1.3°C) and a low in 1995 (-1.9°C).
- **Monkey Bay** shows variability with a peak in 2023 (+1.5°C) and a low in 1992 (-1.6°C).
- **Mzimba** demonstrates fluctuation, with a high in 2005 (+1.8°C) and a low in 1995 (-2.0°C).
- **Mzuzu** has variable temperatures, with peaks like 2022 (+3.0°C) and lows such as 1994 (-1.9°C).
- **Ngabu** features fluctuations, including a high in 2018 (+2.3°C) and a low in 1998 (-2.6°C).
- **Nkhata Bay** exhibits notable changes with a peak in 2023 (+3.9°C) and a low in 1996 (-2.1°C).
- **Nkhota Kota** shows variability, with a significant rise in 2012 (+3.9°C) and a low in 1992 (-1.2°C).
- **Ntaja** has varied temperatures, with a peak in 2005 (+2.7°C) and a low in 2016 (-2.0°C).
- **Salima** demonstrates fluctuation, with a high in 2016 (+3.4°C) and a low in 1991 (-1.8°C).