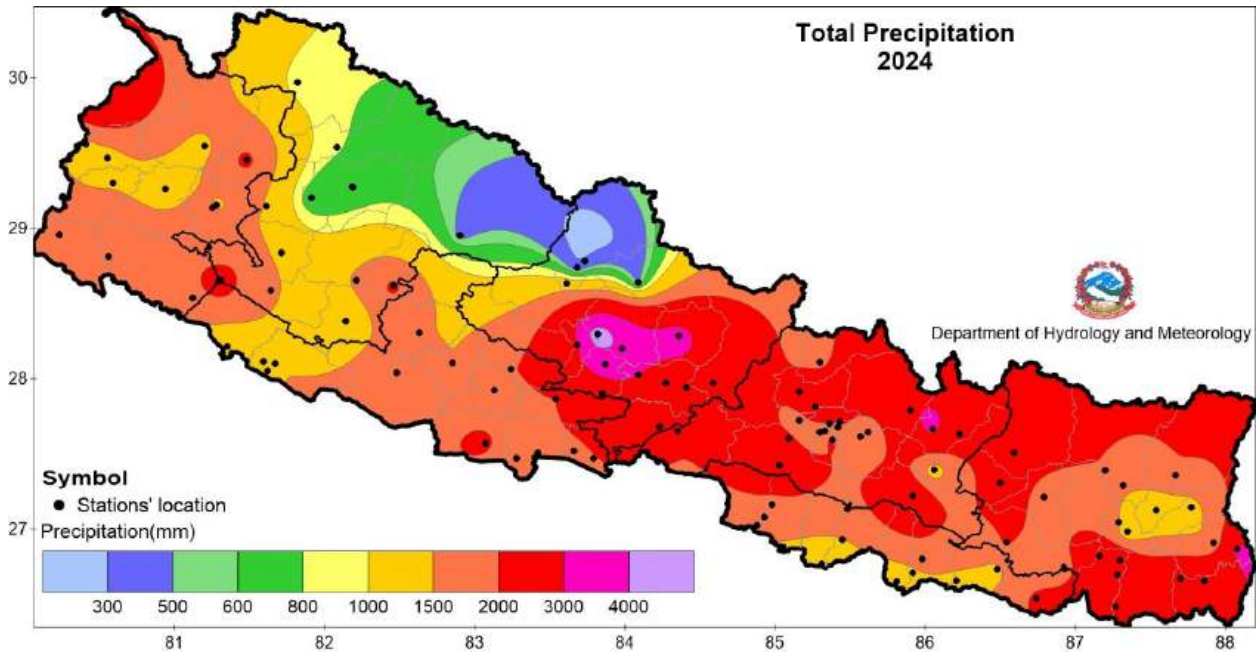
STATE OF THE CLIMATE OF NEPAL
2024



Spatial Distribution of Annual Precipitation (2024)

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1. Introduction

1.1 Highlights

Nepal observed above-normal maximum temperature from April to December while above-normal minimum temperature were observed in all months except February. This year there were 50 extremely hot days with temperatures rising above 40 °C. Heat wave lasted from 5 to 17 consecutive days mostly affecting the southern plains during April to June.

The interannual variability of precipitation over Nepal was 111.1% of the normal, indicating above-normal rainfall across the country. During the monsoon season, Nepal recorded 122.0% of the normal monsoon precipitation. In contrast, pre-monsoon, and post-monsoon season's experienced below-normal precipitation 80.9%, and 80.4% of their respective normal while winter season was drier experiencing only 19.8% of normal winter rainfall. The monsoon entered eastern Nepal on 10 June, three days earlier than the climatological onset date, and withdrew on 12 October, ten days later than normal. The total monsoon duration was 125 days, which is thirteen days longer than the average period of 112 days.

In 2024, 49 stations set new records for the highest-ever 24-hour precipitation, 14 stations recorded new extremes for daily maximum temperature, and 1 station set a new record for lowest daily minimum temperature. A new national record for the highest daily precipitation in Nepal's history was set on July 8 at 8:45 A.M. in the southwestern part of Sudurpaschim Province (Kanchanpur District). Dodhara station recorded 624.0 mm, Hanuman Nagar station 573.6 mm, and Sundarpur station 555.8 mm of rainfall, all surpassing the previous record of 516.2 mm set at Hetauda N.F.I station on August 13, 2017.

1.2 Data and Methods

The analysis was based on precipitation and temperature data from 112 stations (Figure 1.1; Annex 1). Of the total stations, 38 are located at elevations up to 500 m, 22 stations between 500 m and 1000 m, 18 stations between 1000 m and 1500 m, 20 stations between 1500 m and 2000 m, 9 stations between 2000 m and 2500 m, 4 stations between 2500 m and 3000 m, and 1 station above 3000 m.

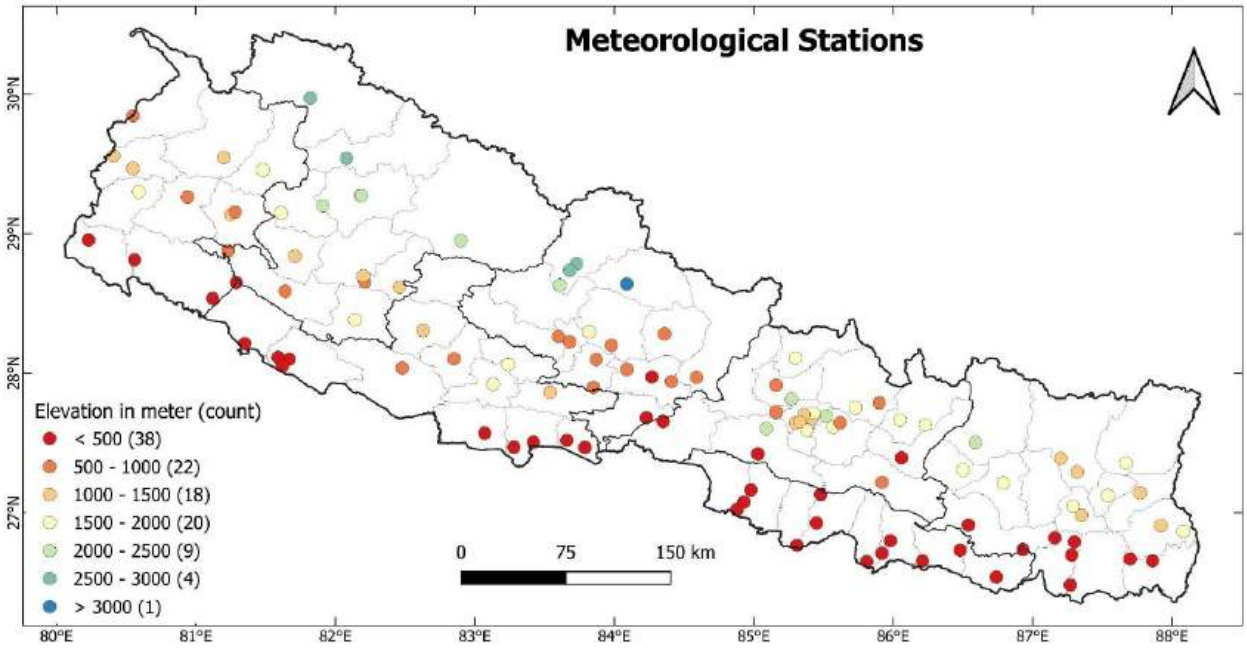

Figure 1.1: Spatial Distribution of stations across different elevation levels

Some stations with irregular data were used only for monthly and seasonal analyses; therefore, the number of stations varies across annual, monthly, and seasonal analyses. To assess precipitation conditions, the percentage of observed precipitation relative to the normal value was calculated to determine excess or deficit. For temperature, seasonal and annual maximum and minimum temperatures, along with their departures from normal, have been computed and are presented in Annex 2. In this report, precipitation

within ±10% of the normal (i.e., 90%–110%) is considered near-normal, while for temperature, anomalies within ±0.2 °C are considered normal. The 'normal' refers to the climatological average for the period 1991–2020. Monthly normals were derived from daily station data, while seasonal and annual normals were calculated from monthly values.

2. Annual weather

Precipitation

Northern part of Karnali Province and north-western part of Gandaki Province recorded precipitation less than 800 mm while isolated parts of Gandaki Province, Bagamati Province and Koshi Province recorded precipitation more than 3000 mm (Figure 2.1). Most part of Koshi Province, Bagamati province and Lumbini Province, eastern part of Madhesh Province, northern part of Gandaki Province and central part of Sudurpaschim Province recorded above normal precipitation. Below normal precipitation was recorded in isolated parts of Karnali Province and Gandaki Province while the rest of the country recorded near-normal precipitation (Figure 2.2).

Lumle station of Kaski district recorded the highest annual total precipitation of 4572.7 mm while Jomsom station of Mustang recorded lowest precipitation of 337.6 mm this year (Annex 2). Similarly, the highest (160%) and the lowest (76%) percentage of normal precipitation were recorded at Bandipur station of Tanahun and Jumla station of Jumla district respectively. The country averaged total precipitation of 2024 was the highest since 2022 (Figure 2.3). March, July, September, and November experienced above-normal precipitation; June and August recorded near-normal precipitation, while the remaining months had below-normal rainfall. In particular, the winter months (January, February, and December) received below-normal precipitation (Figure 2.4).

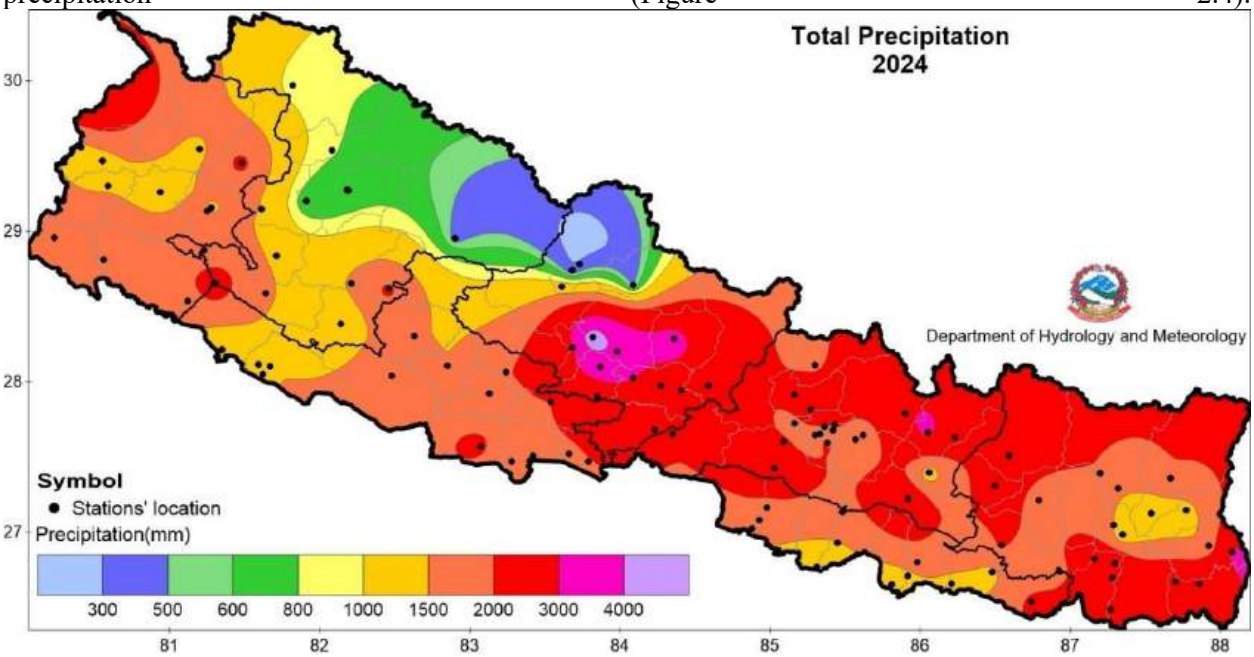

Figure 2.1: Total precipitation in 2024.

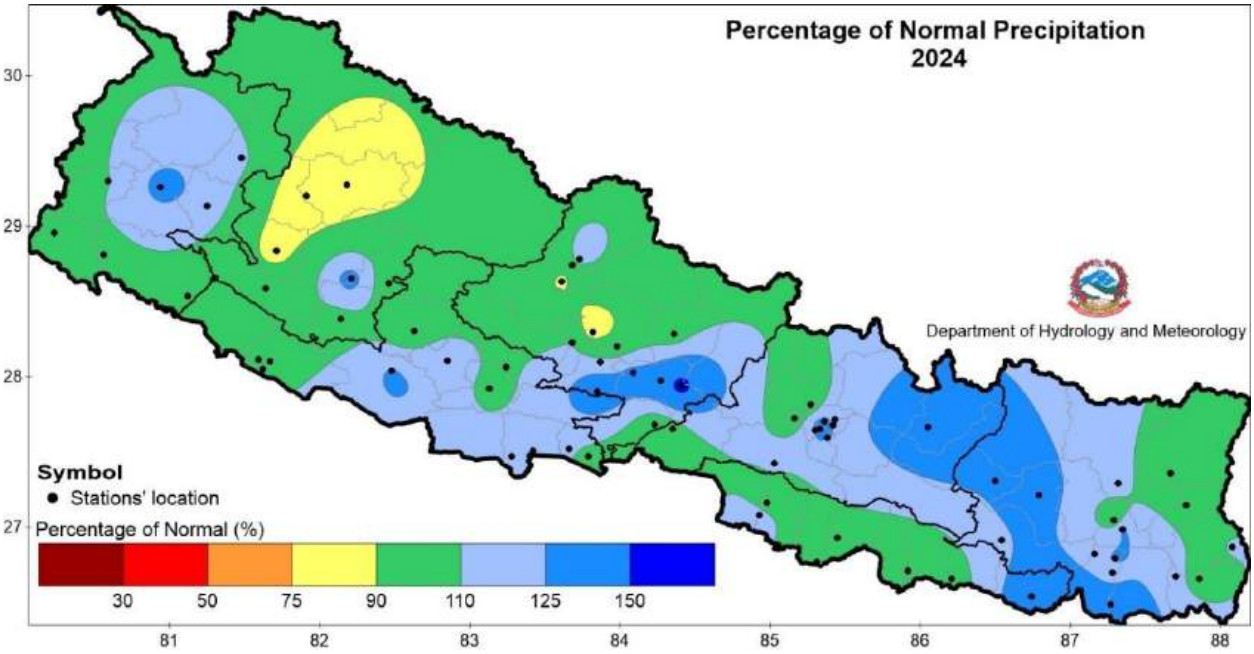

Figure 2.2: Percentage of normal precipitation in 2024.

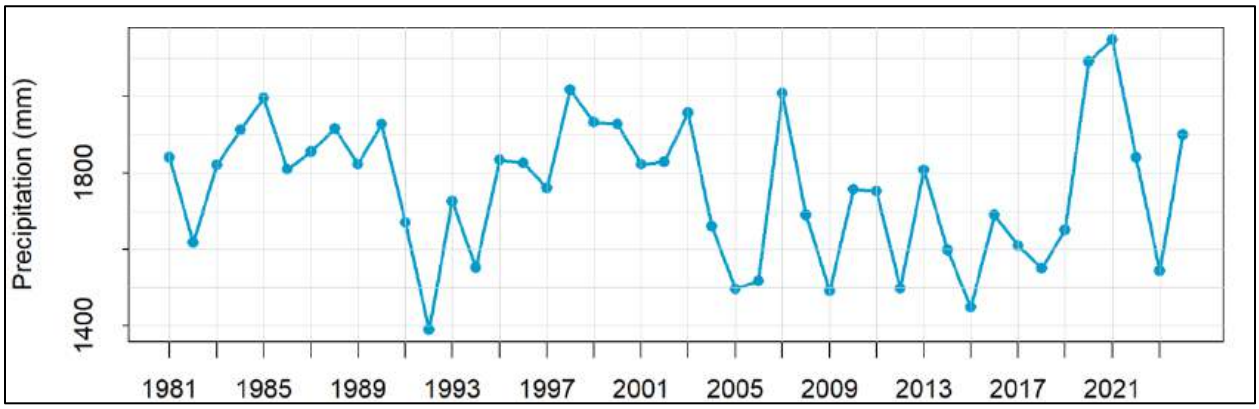

Figure 2.3: Interannual variability of all Nepal annual precipitation from 1981 to 2024 (average annual precipitation of 102 stations).

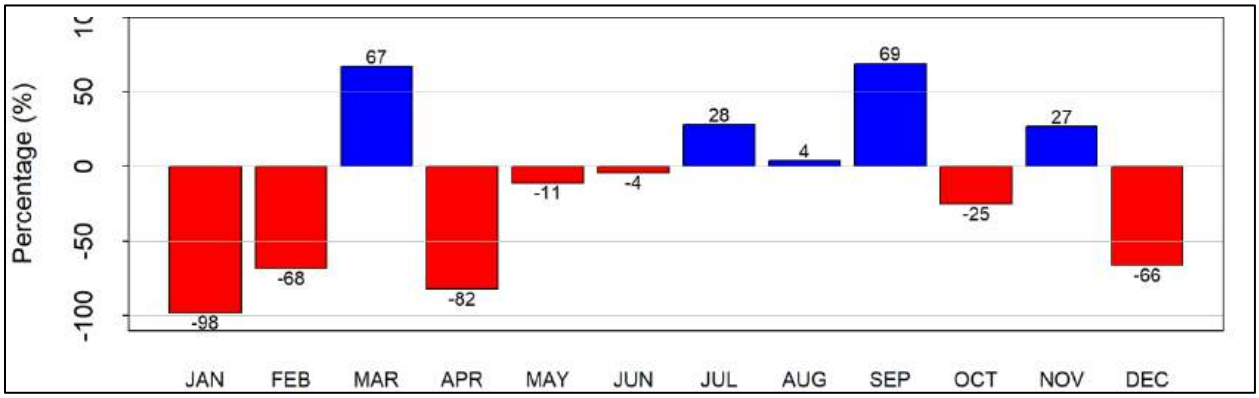

Figure 2.4: Monthly precipitation anomaly (departure from monthly normal in %) of Nepal in 2024.

Maximum Temperature

The average annual maximum temperature was above 30°C in the southern part of the country while the northern part was below 9°C (Figure 2.5). Above normal annual maximum temperature was observed over most parts of the country (Figure 2.6).

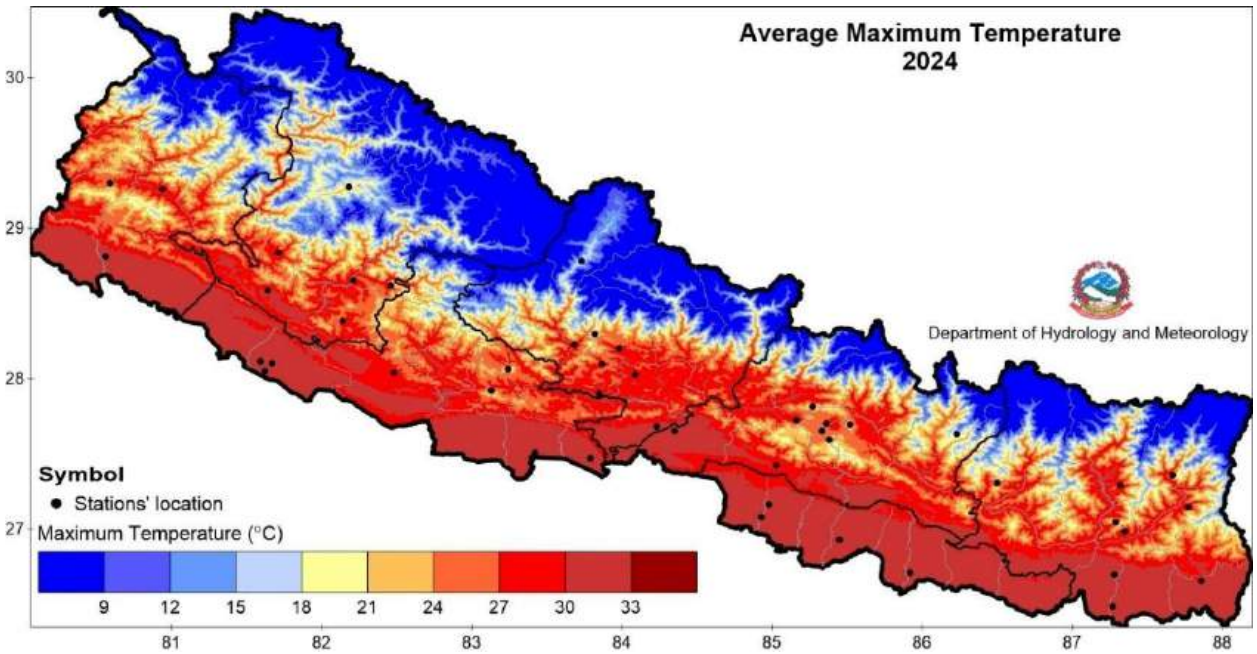

Figure 2.5: Maximum Temperature in 2024.

Semari station of Nawalparasi West district, and Jomsom station of Mustang district recorded the highest and lowest annual maximum temperature of 31.5°C and 17.7°C respectively. Similarly, the highest annual anomaly of 2.0°C was recorded at Dhankuta station of Dhankuta district and the lowest of -0.6°C was recorded at Dailekh station of Dailekh district. The country averaged maximum temperature of 2024 was one of the hottest on record, similar to 2010, 2016, and 2023, but the average maximum temperature was lower than in 2023 (Figure 2.7). Below normal maximum temperature was observed from January to March while the rest of the nine months observed above normal maximum temperature (Figure 2.8).

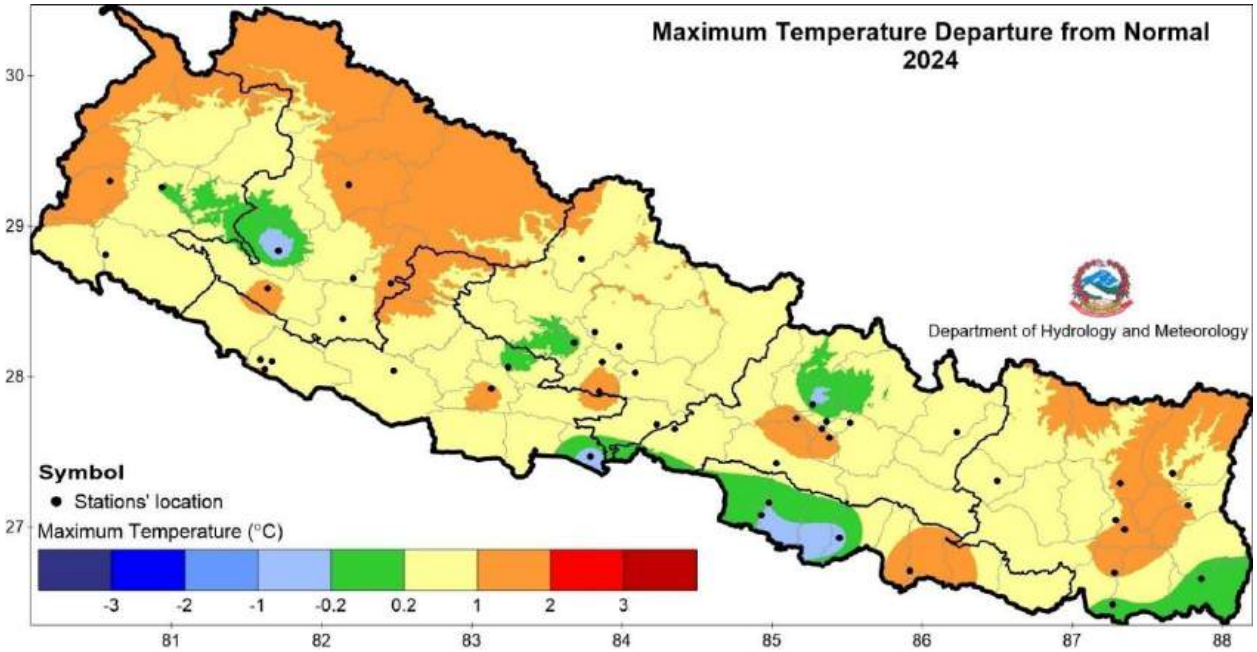

Figure 2.6: Departure from normal maximum temperature in 2024.

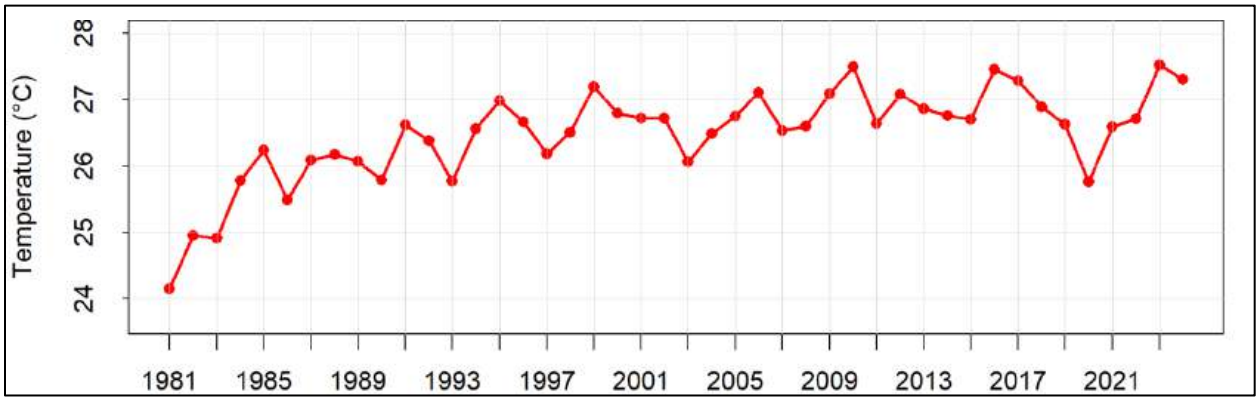

Figure 2.7: Interannual variability of all Nepal annual average maximum temperature from 1981 to 2024 (average of 68 stations).

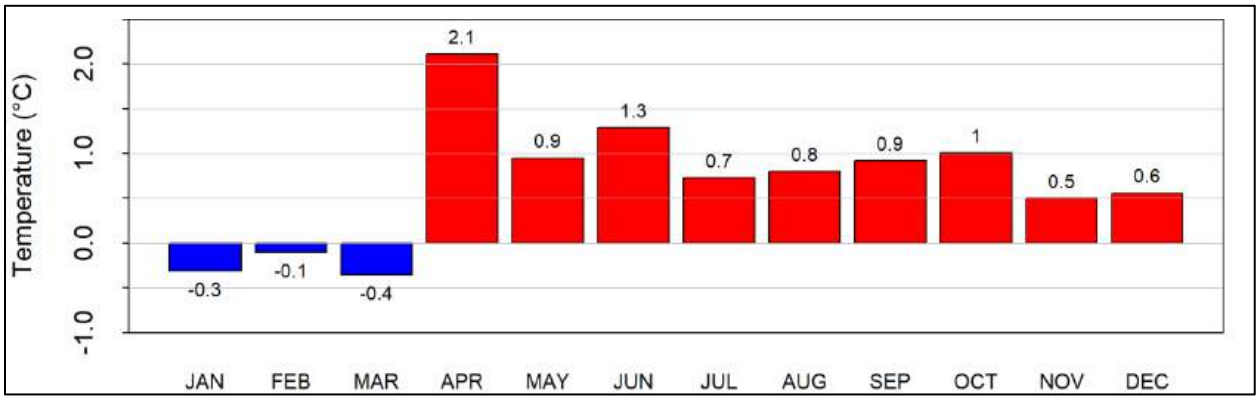

Figure 2.8: Monthly maximum temperature anomaly (departure from monthly normal) of Nepal in 2024

Minimum Temperature

Minimum temperature was above 18°C in the southern part while the northern part was below 0°C (Figure 2.9). Minimum temperature was above normal across the southern part of the country, except parts of Sudurpashchim Province, Karnali Province and Lumbini Province, while the northern part experienced below normal temperature (Figure 2.10).

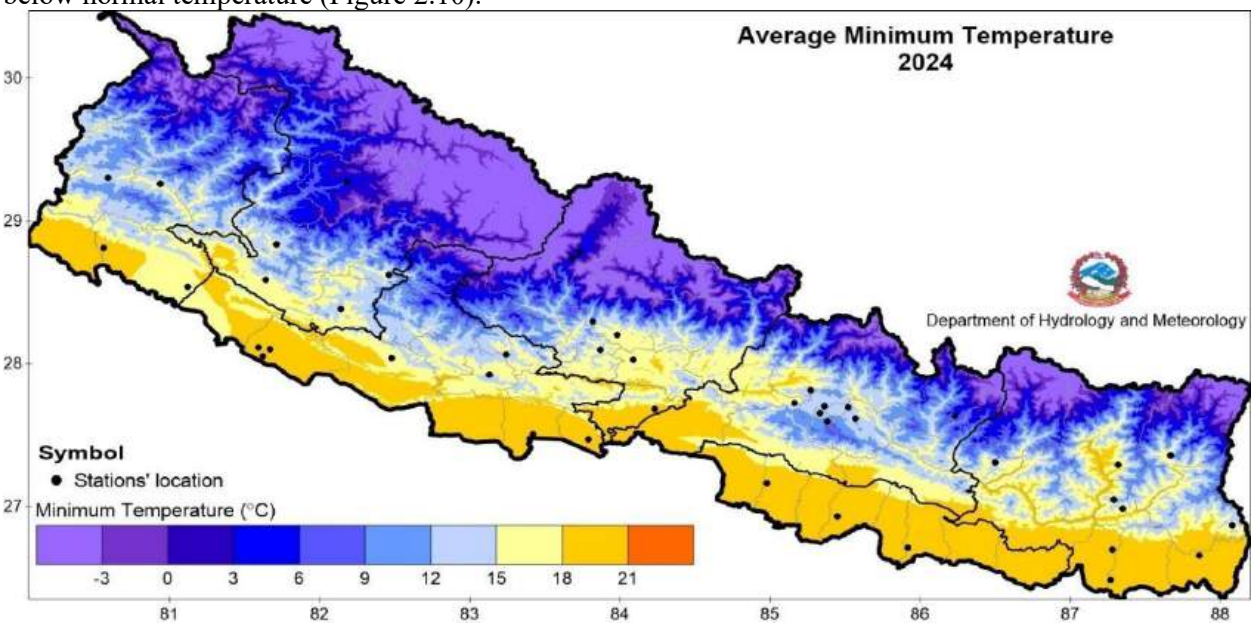

Figure 2.9: Minimum Temperature in 2024.

Janakpur Airport station of Dhanusha district and Thakmarpha station of Mustang district recorded the highest and lowest annual minimum temperature of 19.7°C and 5.1°C, respectively. Similarly, the highest annual anomaly of 2.5°C was recorded at Kanyam Tea Estate station of Ilam district and the lowest of -1.4°C was recorded at Tikapur station of Kailali district. Since 2020, the interannual variability of the country-averaged minimum temperature has followed an overall increasing pattern. The values increased in 2021 and 2022, decreased slightly in 2023, and increased again in 2024, which was the highest average minimum temperature since 1981. Below normal minimum temperature was observed in February while rest of the 11 months observed above normal minimum temperature (Figure 2.12).

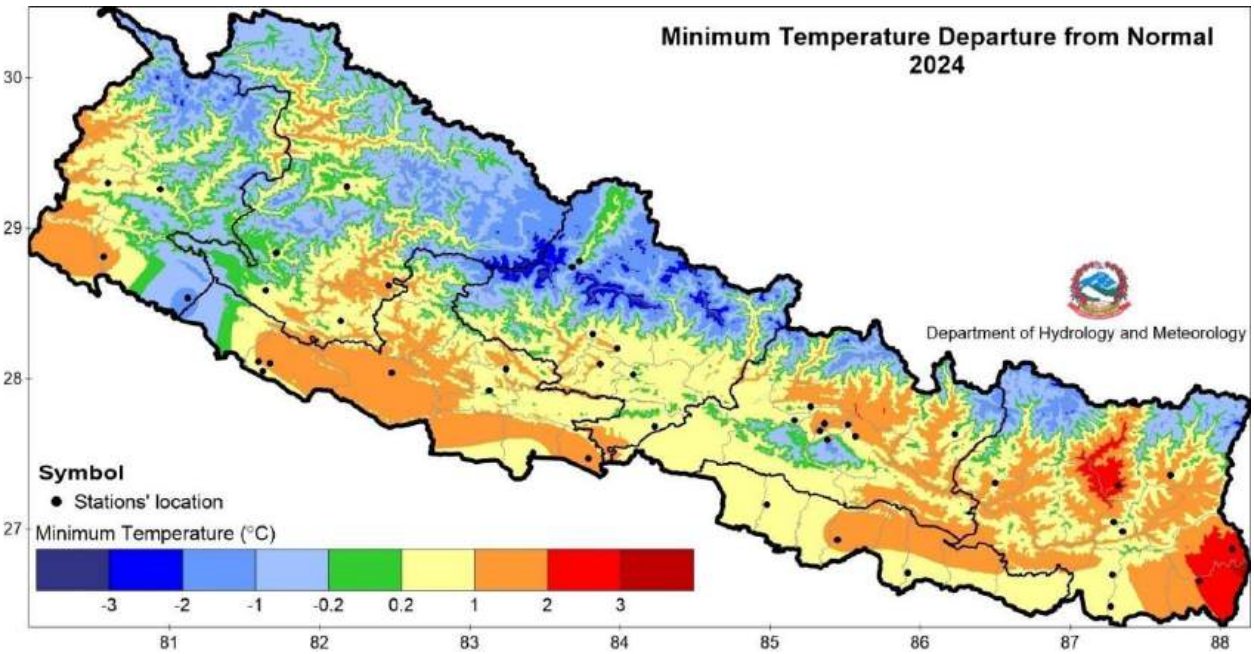

Figure 2.10: Departure from normal minimum temperature in 2024.

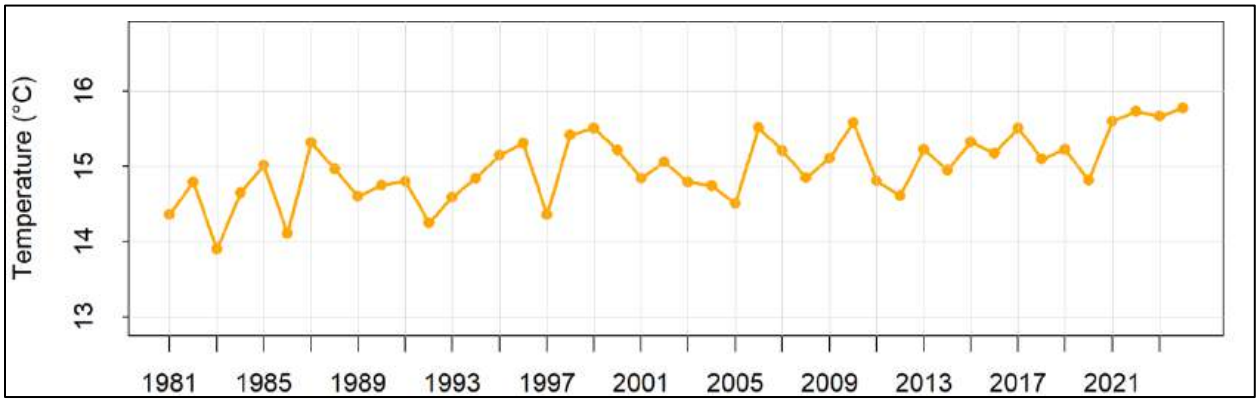

Figure 2.11: Interannual variability of all Nepal annual average minimum temperature from 1981 to 2024 (average of 66 stations).

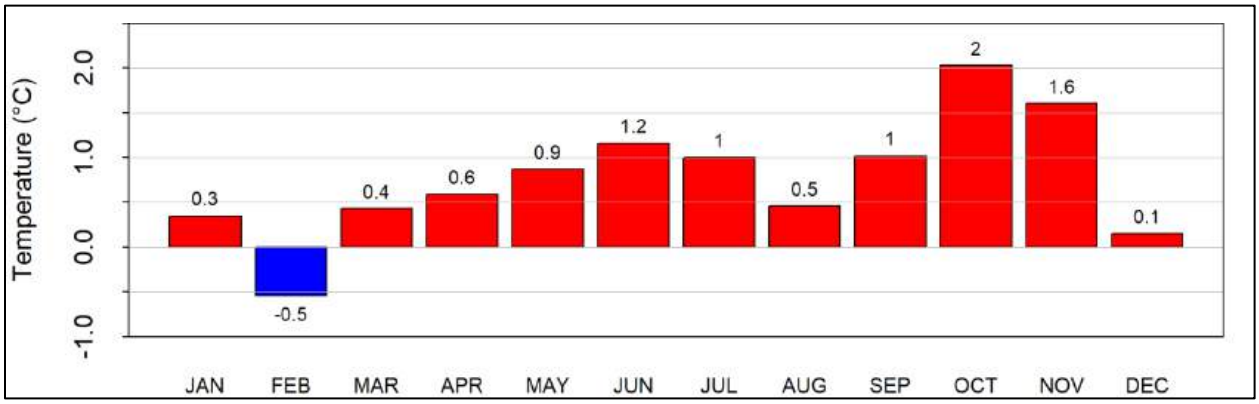

Figure 2.12: Monthly minimum temperature anomaly (departure from monthly normal) of Nepal in 2024.

3. Seasonal weather

Seasons are divided into Winter (December of previous year -February), Pre-monsoon (March-May), Monsoon (June-September) and Post-monsoon (October-November). Annual is the period from January to December 2024. Seasonal temperature, precipitation and anomalies are presented in Annex 2.

3.1 Winter season (December 2023 – February 2024)

Precipitation

Most parts of the country recorded less than 25mm precipitation this winter (Figure 3.1.1). Country recorded below normal precipitation in winter (Figure 3.1.2). Extreme drought conditions were observed in most parts of the country. Northern part of Sudurpaschim Province and north-western part of Karnali Province recorded precipitation of more than 50 mm. Martadi station of Bajura district recorded the highest seasonal total precipitation of 90.7 mm with highest percentage of normal seasonal precipitation of 59.5%. Based on the average of 84 stations, Nepal received 19.4% of the normal winter precipitation.

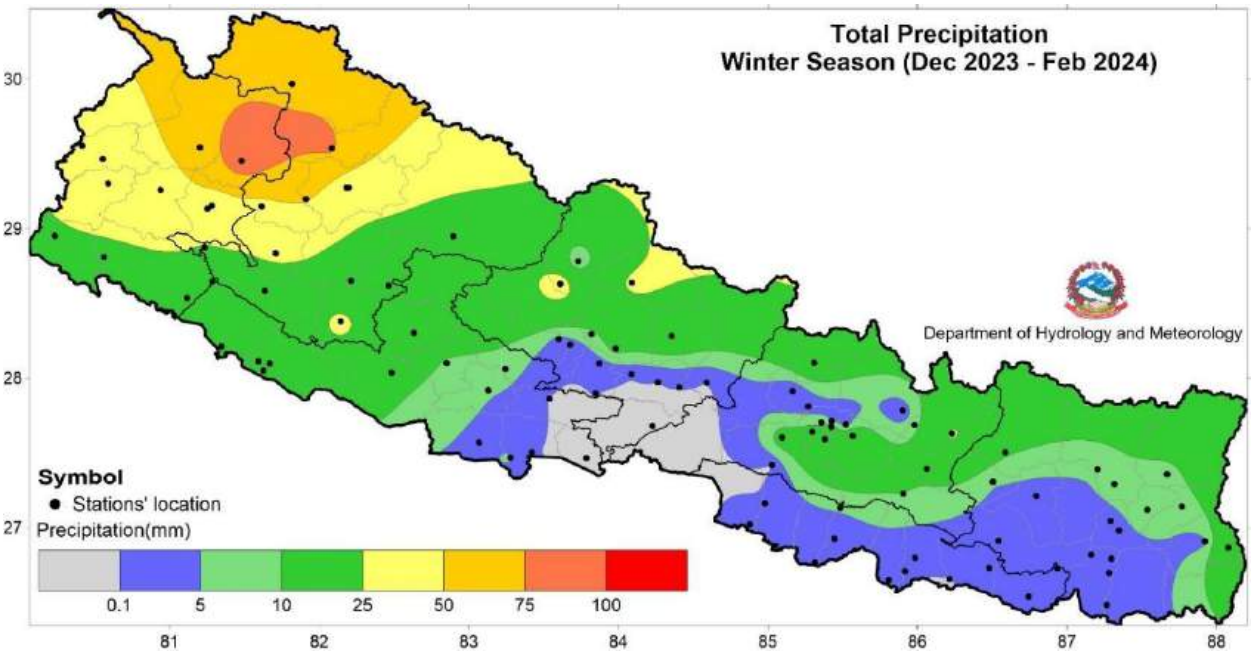

Figure 3.1.1: Total precipitation in winter 2023-24.

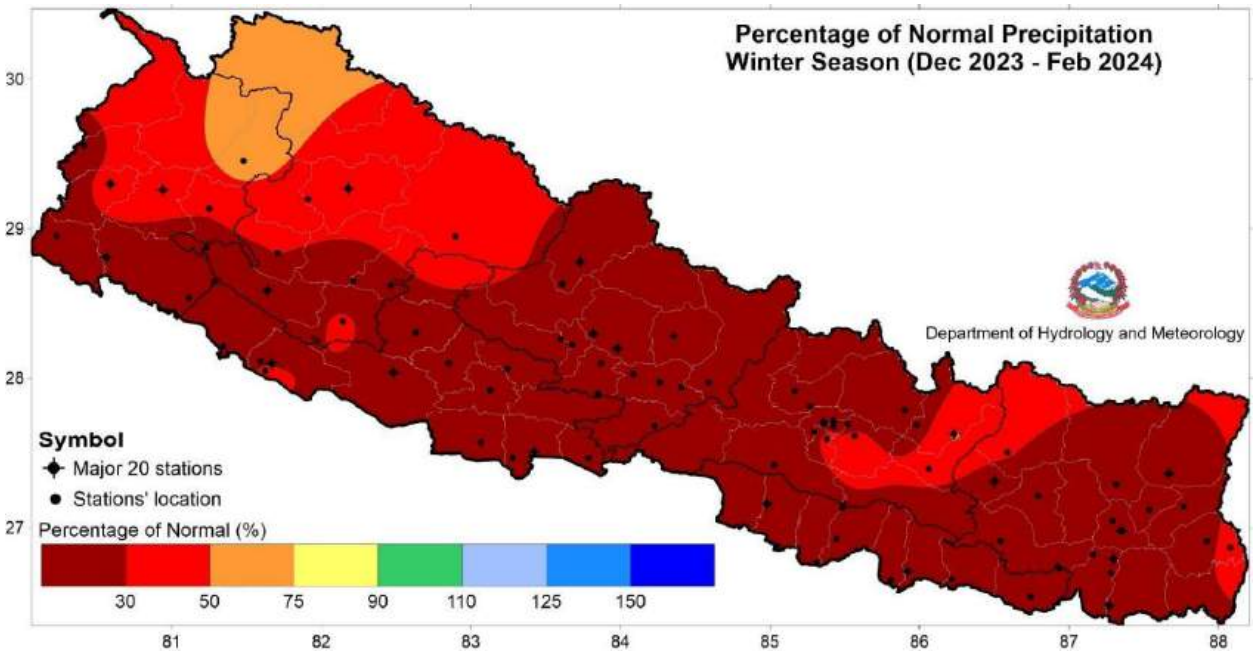

Figure 3.1.2: Percentage of normal precipitation in winter 2023-24.

The temporal distribution of all Nepal average daily cumulative precipitation shows that precipitation remained below normal throughout the winter season (Figure 3.1.3). The country averaged total precipitation of winter 2023-24 was one of the driest winters since 1980-81 (Figure 3.1.4).

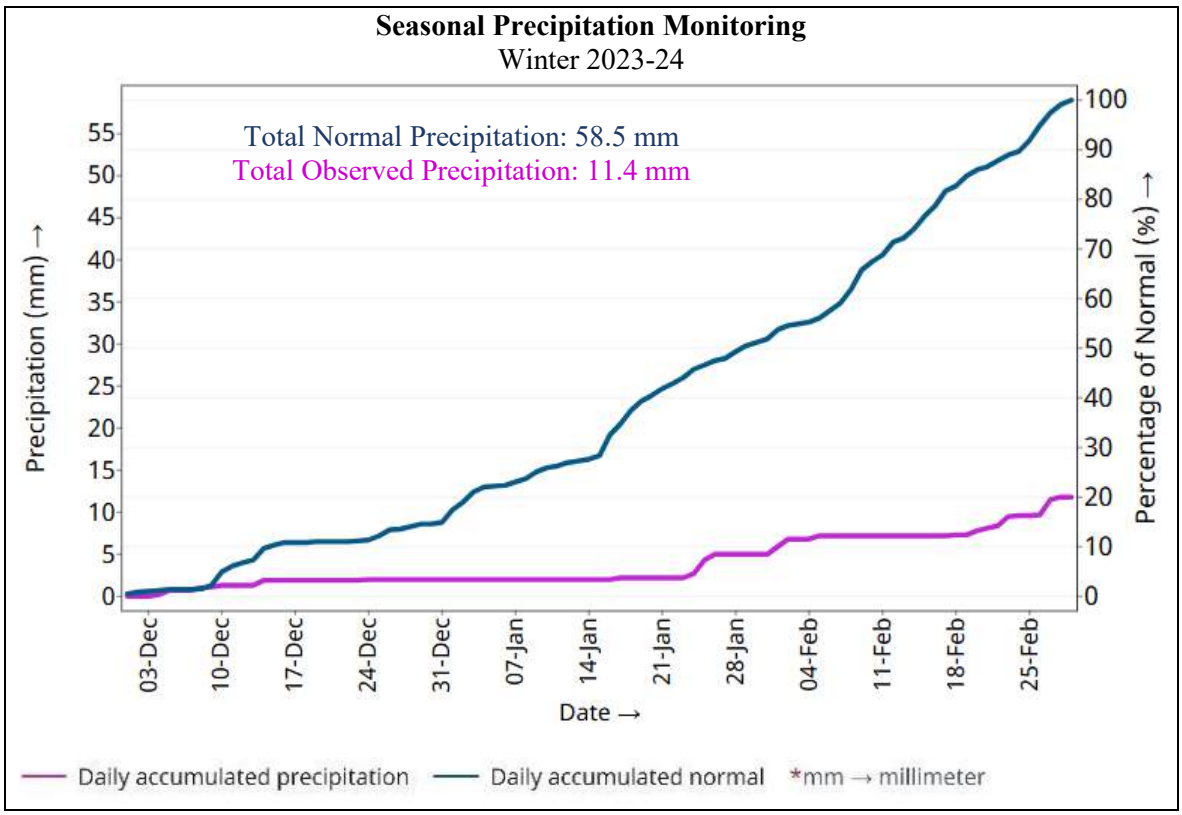

Figure 3.1.3: Cumulative all Nepal daily normal and observed precipitation during Winter 2023-24.

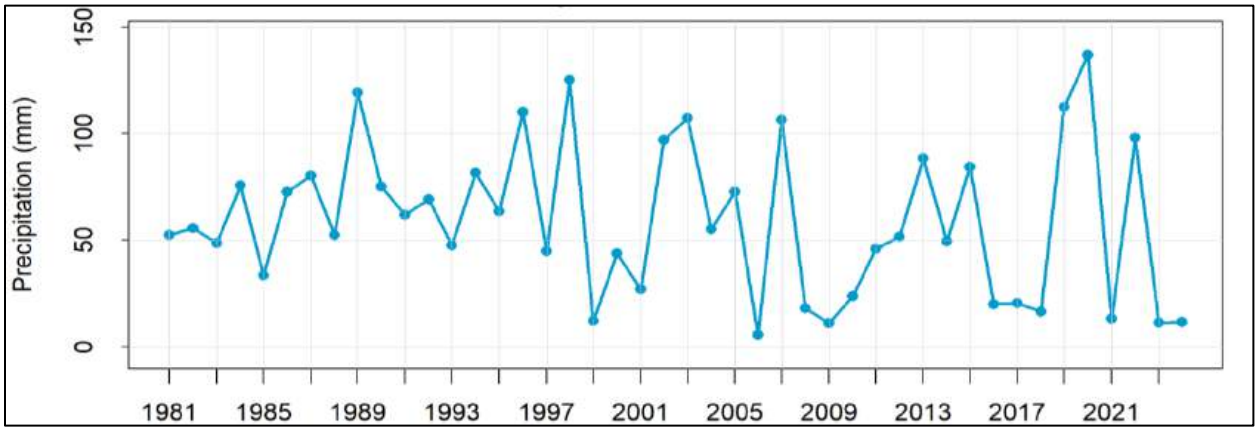

Figure 3.1.4: Interannual variability of all Nepal seasonal total precipitation in Winter season from 1981 to 2024 (average of 89 stations).

Maximum Temperature

Northern part of the country recorded seasonal average maximum temperature less than 9°C while the southern part recorded above 21°C (Figure 3.1.5). Maximum temperature was below normal over southern plains while the remaining part of the country experienced near-normal to above normal maximum temperature (Figure 3.1.6).

Chatara station of Sunsari district and Humde station of Manang district recorded the highest and lowest seasonal average maximum temperature of 26.4°C and 6.7°C respectively. Similarly, the highest seasonal anomaly of +4.0°C was recorded at Gaur station of Rautahat district and the lowest of -1.5°C was recorded at Taulihawa station of Kapilbastu district. The highest daily maximum temperature of 32.2°C was recorded at Janakpur Airport station of Dhanusha district on 24th December while the lowest daily maximum temperature of -1.5°C was recorded at Humde station of Manang district on 1st February. The country averaged maximum temperature of winter 2023-24 was lower than in 2022-23 (Figure 3.1.7).

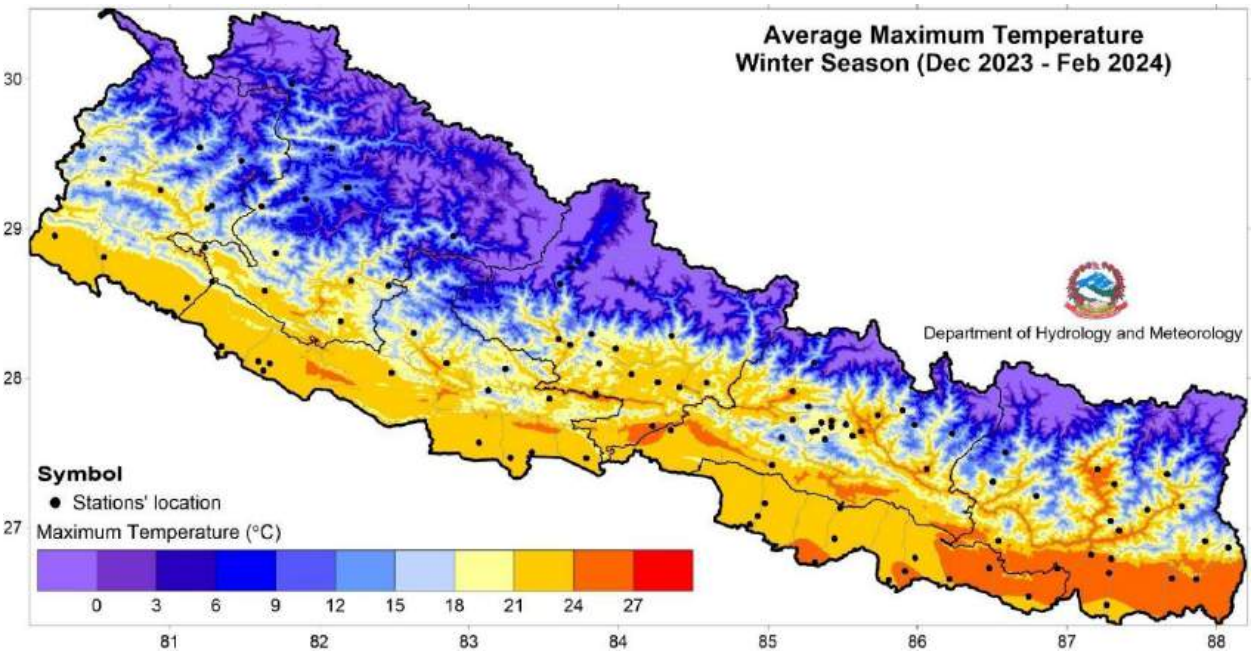

Figure 3.1.5: Maximum temperature in winter 2023-24.

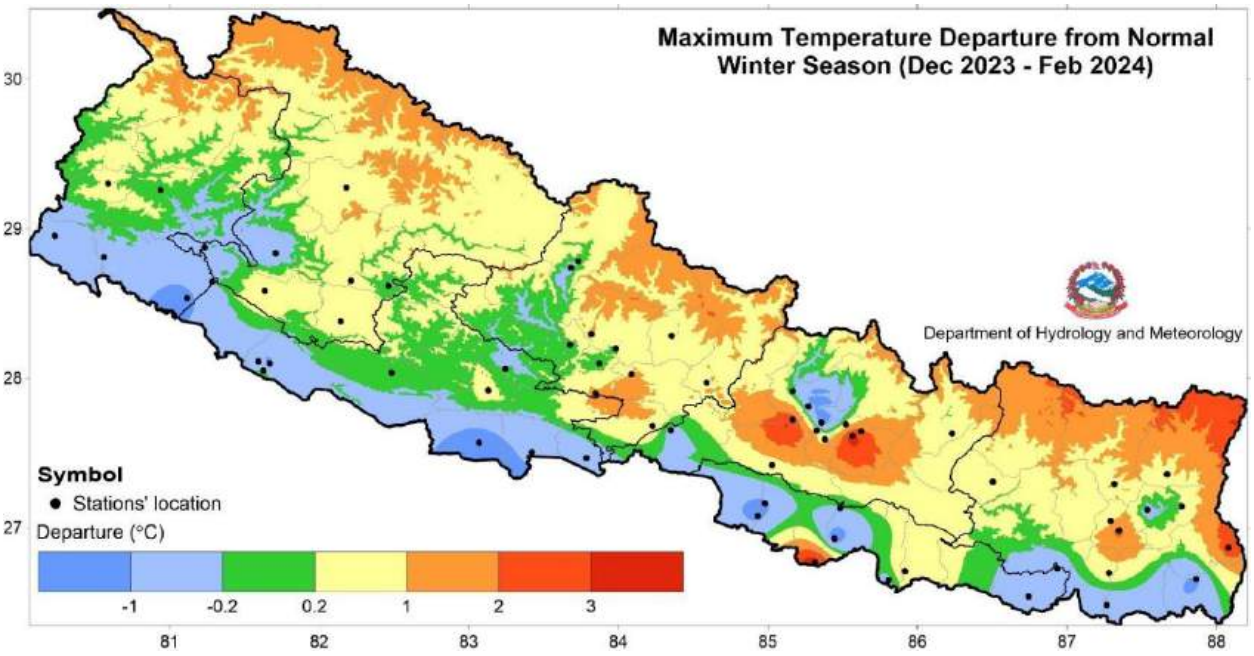

Figure 3.1.6: Departure from normal maximum temperature in winter 2023-24.

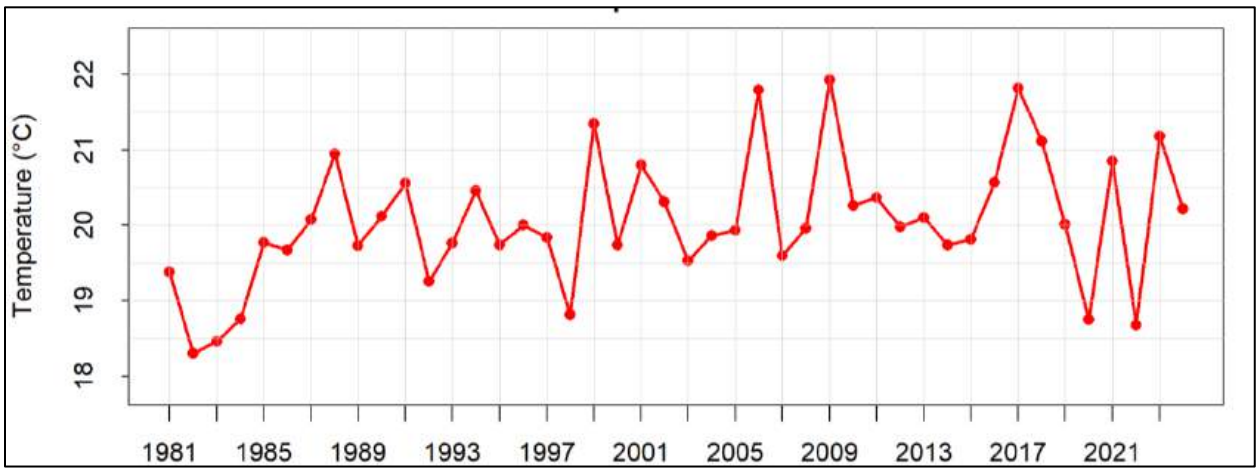

Figure 3.1.7: Interannual variability of all Nepal seasonal average maximum temperature of Winter season from 1981 to 2024 (average of 51 stations).

Minimum Temperature

Northern part of the country recorded seasonal average minimum temperature less than 0°C while the southern part recorded above 9°C (Figure 3.1.8). Southern part of Sudurpaschim Province, Lumbini Province, southern part of Gandaki Province, southern and eastern part of Bagamati Province, Madhesh Province and central and southern part of Koshi Province recorded near-normal to above normal minimum temperature while rest of the country recorded below normal minimum temperature (Figure 3.1.9).

Dharan Bazar station of Sunsari district and Humde station of Manang district recorded the highest and lowest seasonal average minimum temperature of 12.7°C and -7.4°C respectively. Similarly, the highest seasonal anomaly of +3.0°C was recorded at Kanyam Tea Estate station of Ilam district and the lowest anomaly of -2.5°C was recorded at Pusma Camp station of Surkhet district. The highest daily minimum temperature of 19.0°C was recorded at Jaleshwor station of Mahottari district on 7th December while the lowest daily minimum temperature of -15.0°C was recorded at Humde station of Manang district on 20th December. The country averaged minimum temperature of Winter 2023-24 was lower than 2022-23 (Figure 3.1.10).

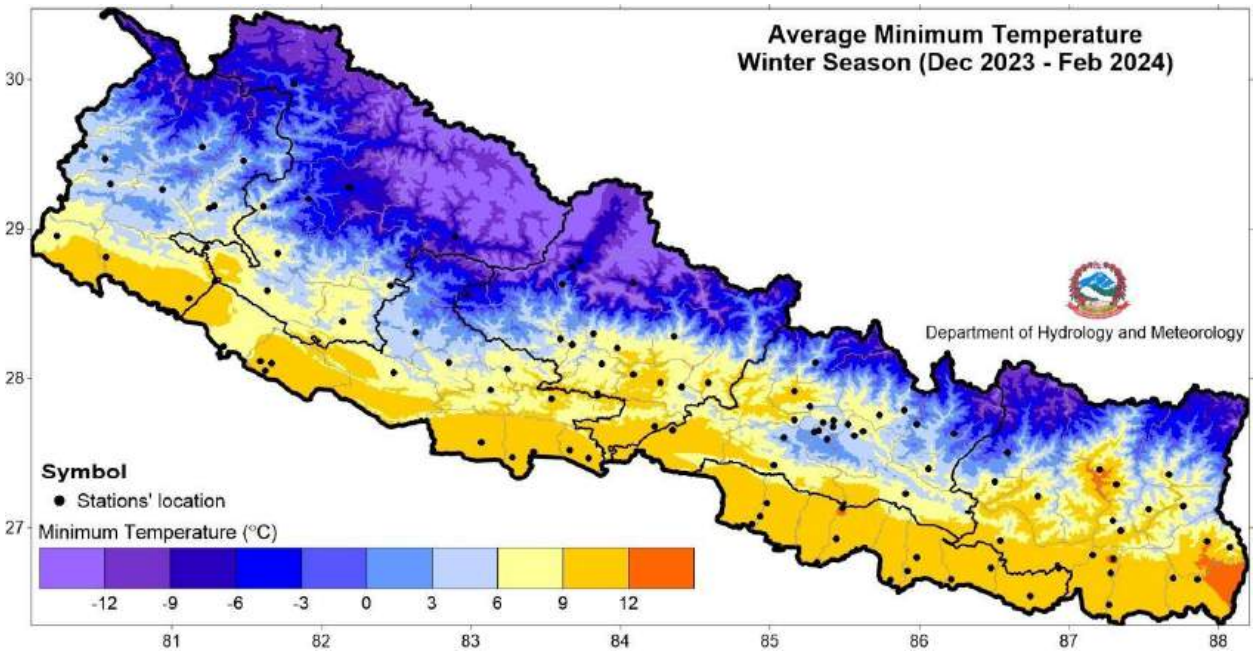

Figure 3.1.8: Minimum temperature in winter 2023-24.

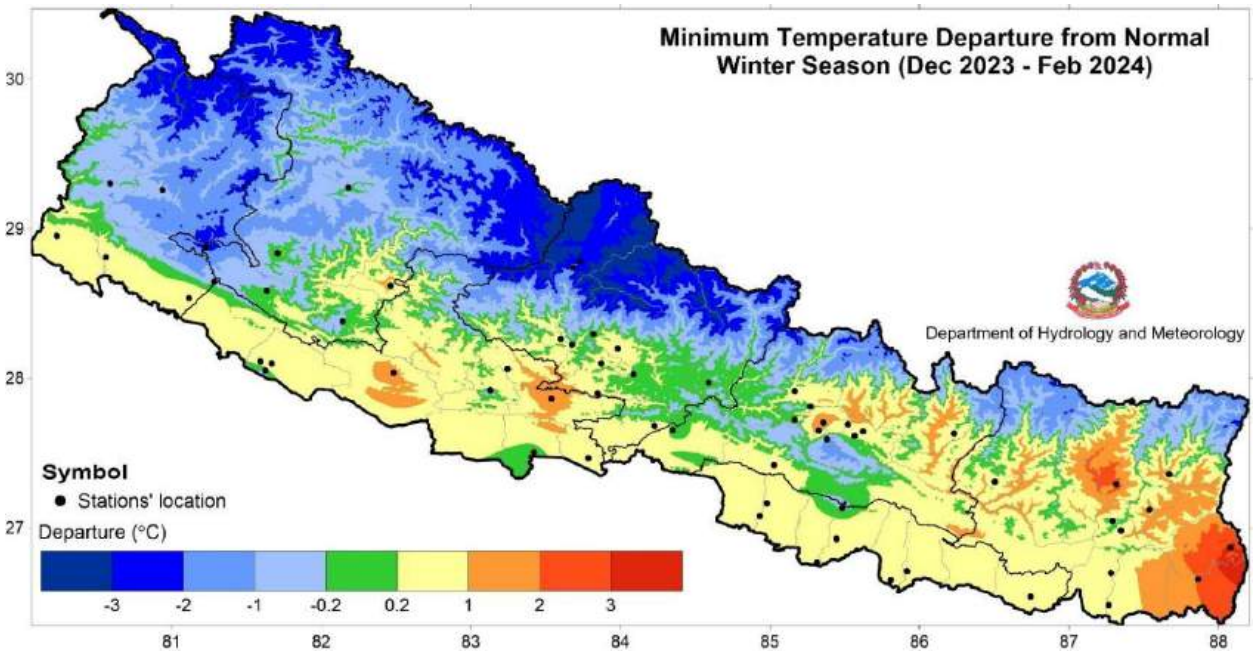

Figure 3.1.9: Departure from normal minimum temperature in winter 2023-24.

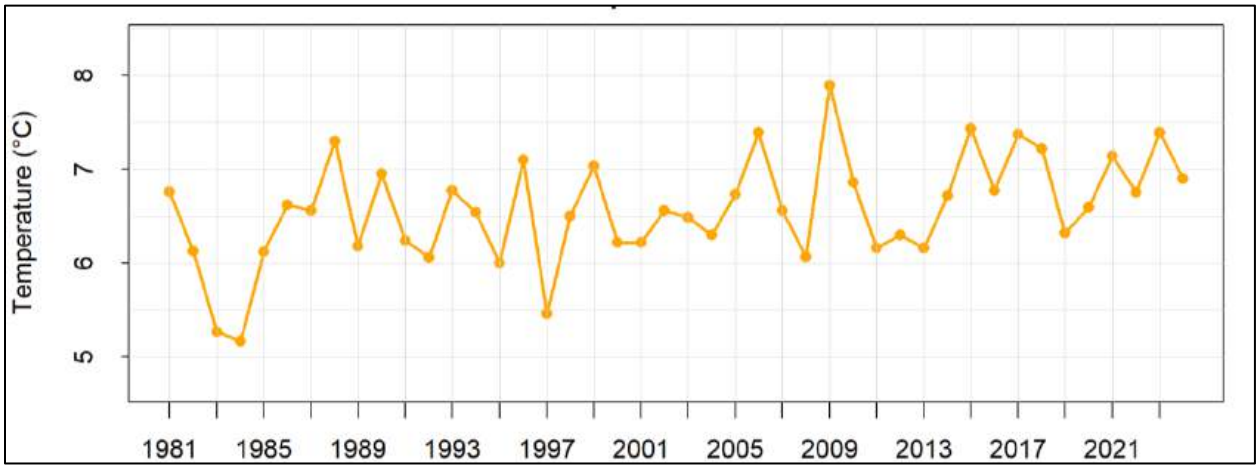

Figure 3.1.10: Interannual variability of all Nepal seasonal average minimum temperature of Winter season from 1981 to 2024 (average of 49 stations).

3.2 Pre-monsoon season (March – May)

Precipitation

Below normal precipitation was recorded over most part of the country. However, southern part of Koshi Province (greater than 300mm) and isolated parts of Madhesh Province, Bagamati Province, Lumbini Province and Sudurpaschim Province recorded above normal precipitation (Figure 3.2.1., Figure 3.2.2). Syangja station of Syangja district recorded the highest seasonal total precipitation of 444.5 mm and Dunai station of Dolpa district recorded the lowest seasonal total precipitation of 43.3 mm. The highest (166.9%) and the lowest (31.4 %) percentage of normal seasonal precipitation was recorded in Chisapani (Karnali) station of Kailali district and Chautara station of Sunsari district respectively. Based on the average of 97 stations, Nepal received 80.9% of the normal precipitation.

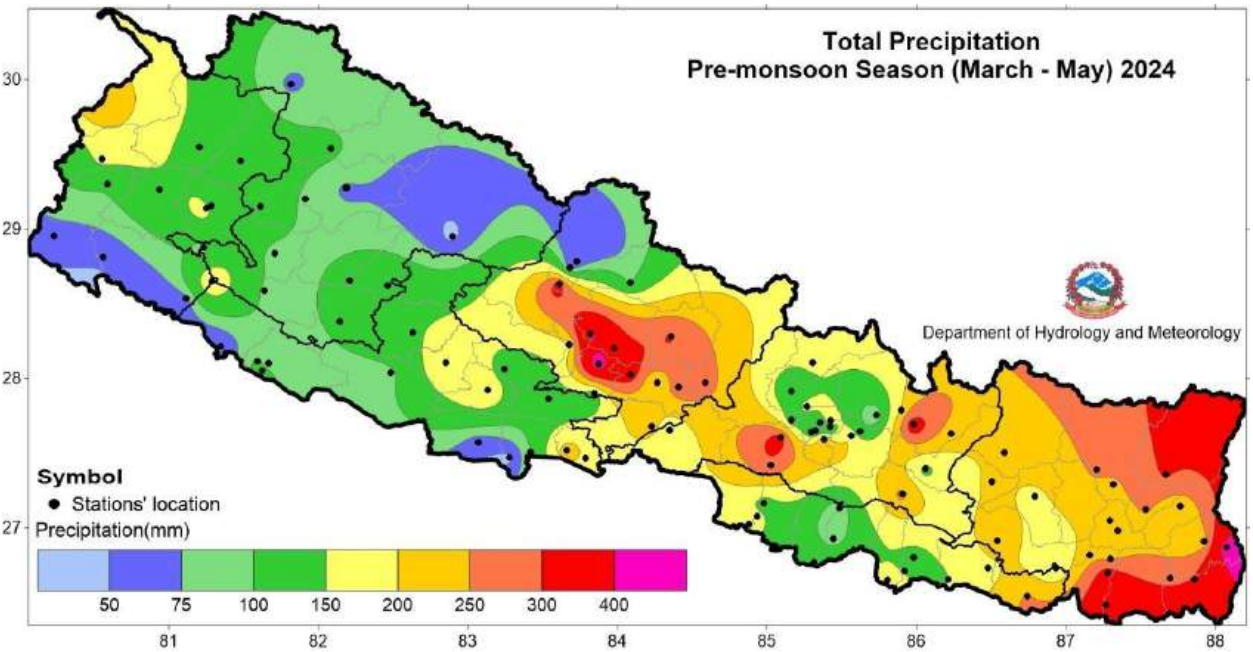

Figure 3.2.1: Total precipitation in Pre-monsoon 2024.

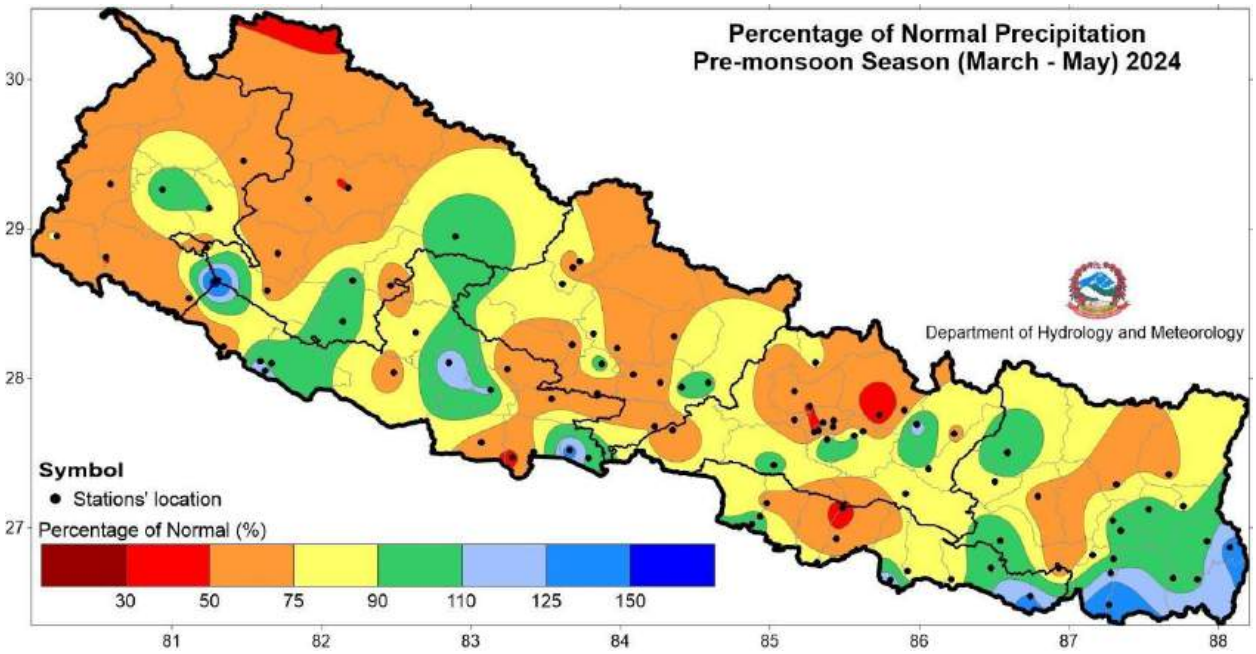

Figure 3.2.2: Percentage of normal precipitation in Pre-monsoon 2024.

The temporal distribution of all Nepal average daily cumulative precipitation shows that precipitation was near-normal until the third week of March, above normal until the second week of April and remained below normal after third week of April. (Figure 3.2.3). The country averaged total precipitation of Pre-monsoon 2024 was the lowest since 2015 (Figure 3.2.4).

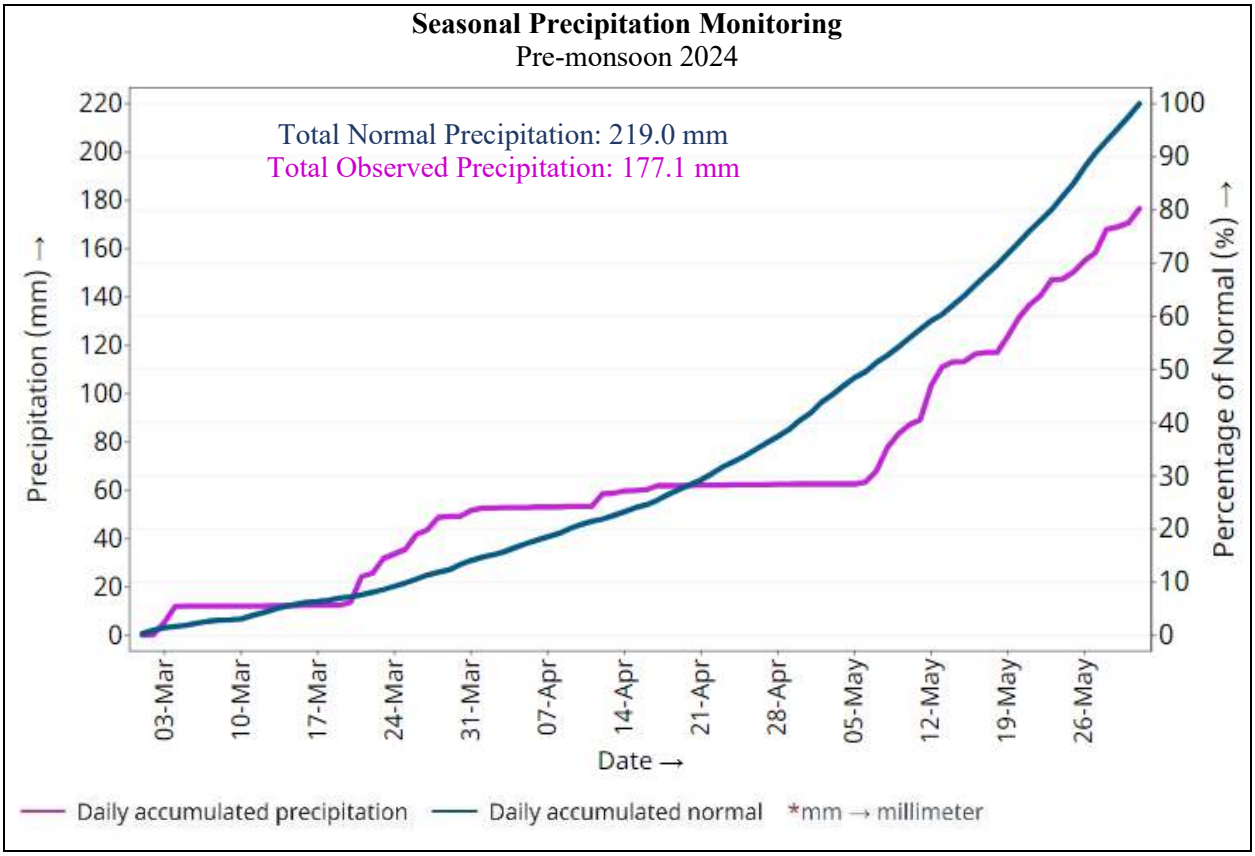

Figure 3.2.3: Cumulative all Nepal daily normal and observed precipitation during Pre-monsoon 2024.

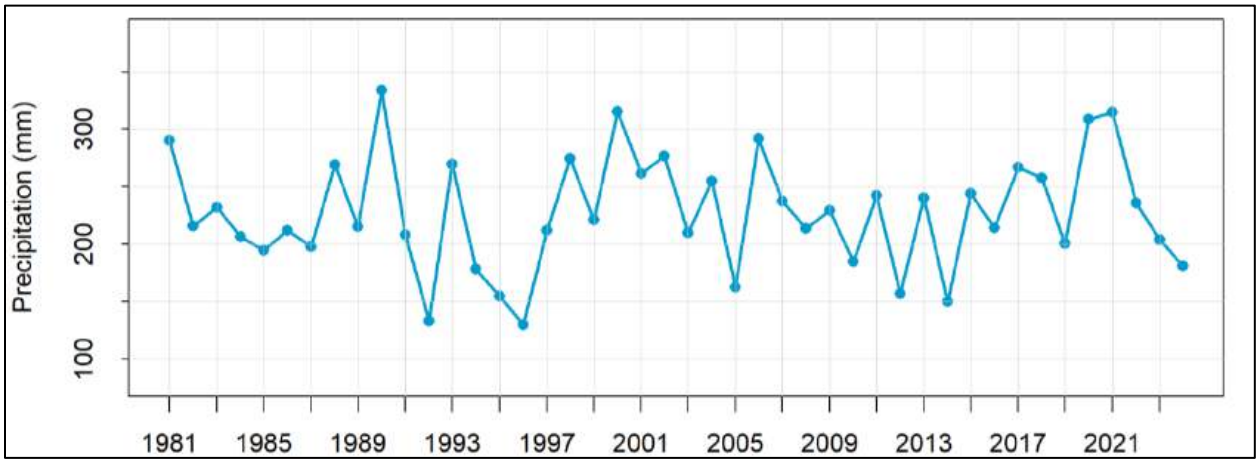

Figure 3.2.4: Interannual variability of all Nepal seasonal total precipitation of Pre-monsoon season from 1981 to 2024 (average of 93 stations).

Maximum Temperature

Northern part of the country recorded seasonal average maximum temperature less than 9°C while the southern part recorded above 33°C (Figure 3.2.5). Maximum temperature was above normal over most parts of the country except in the northern part of Gandaki Province and Bagamati Province (Figure 3.2.6).

Nepalgunj (Reg. Office) station of Banke district and Humde station of Manang district recorded the highest and lowest seasonal average maximum temperature of 36.1°C and 14.1°C respectively. Similarly, the highest seasonal anomaly of +3.4°C was recorded at Gaur station of Rautahat district and the lowest of -0.6°C was recorded at Semari station of Nawalparasi West district. The highest daily maximum temperature of 45.2°C was recorded at Tikapur station of Kailali district on 30th May while the lowest daily maximum temperature of 1.9°C was recorded at Humde station of Manang district on 3rd March in this season. The country averaged maximum temperature of Pre-monsoon was the highest since 2017 (Figure 3.2.7).

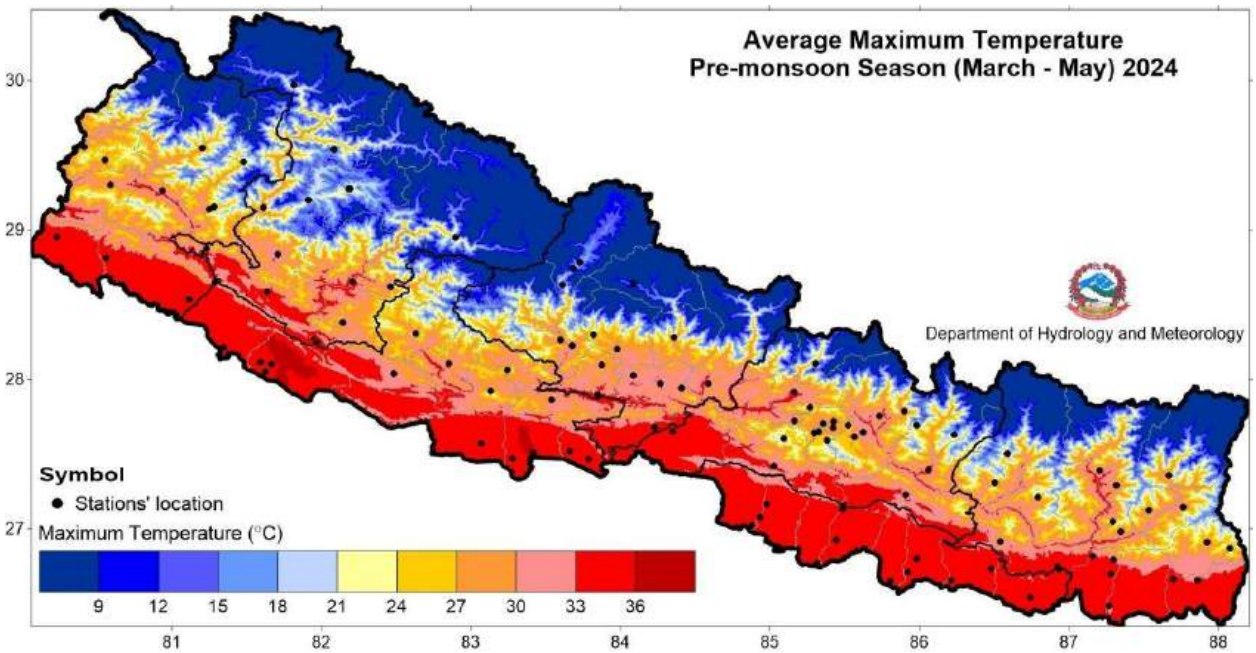

Figure 3.2.5: Maximum temperature in Pre-monsoon 2024.

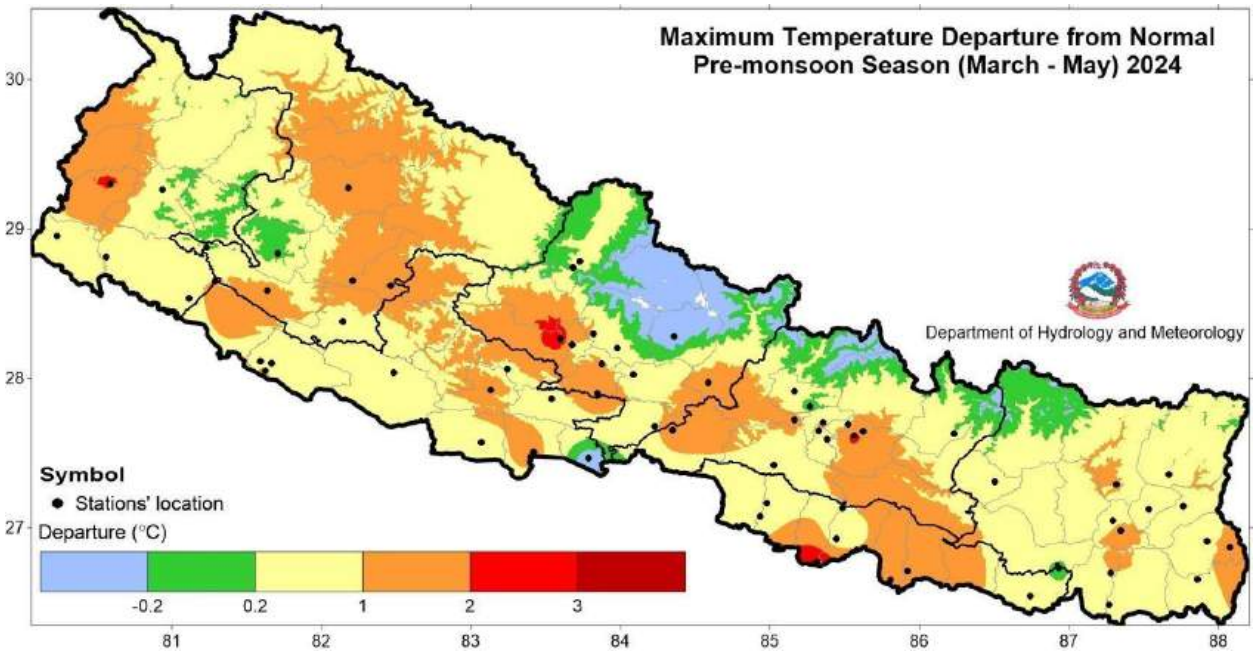

Figure 3.2.6: Departure from normal maximum temperature in Pre-monsoon 2024.

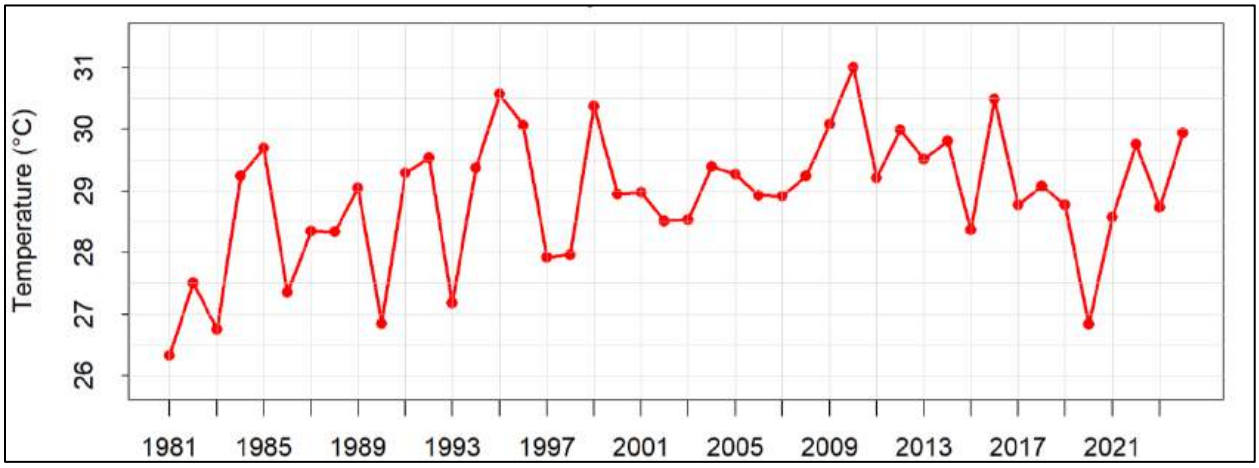

Figure 3.2.7: Interannual variability of all Nepal seasonal average maximum temperature of Pre-monsoon season from 1981 to 2024 (average of 55 stations).

Minimum Temperature

Northern part of the country recorded a seasonal average minimum temperature less than 0°C while the southern part recorded above 18°C (Figure 3.2.8). Minimum temperature was above normal over most parts of the country (Figure 3.2.9).

Chisapani (Karnali) station of Kailali district and Humde station of Manang district recorded the highest and lowest seasonal average minimum temperature of 21.8°C and 0.7°C respectively. Similarly, the highest seasonal anomaly of +2.7°C was recorded at Kanyam Tea Estate station of Ilam district and the lowest anomaly of -3.9°C was recorded at Gaur station of Rautahat district. The highest daily minimum temperature of 33.0°C was recorded at Rampur station of Chitwan district on 25th May while the lowest daily minimum temperature of -9.0°C was recorded at Humde station of Manang district on 4th March. The country averaged minimum temperature of Pre-monsoon 2024 was higher than in 2023 (Figure 3.2.10).

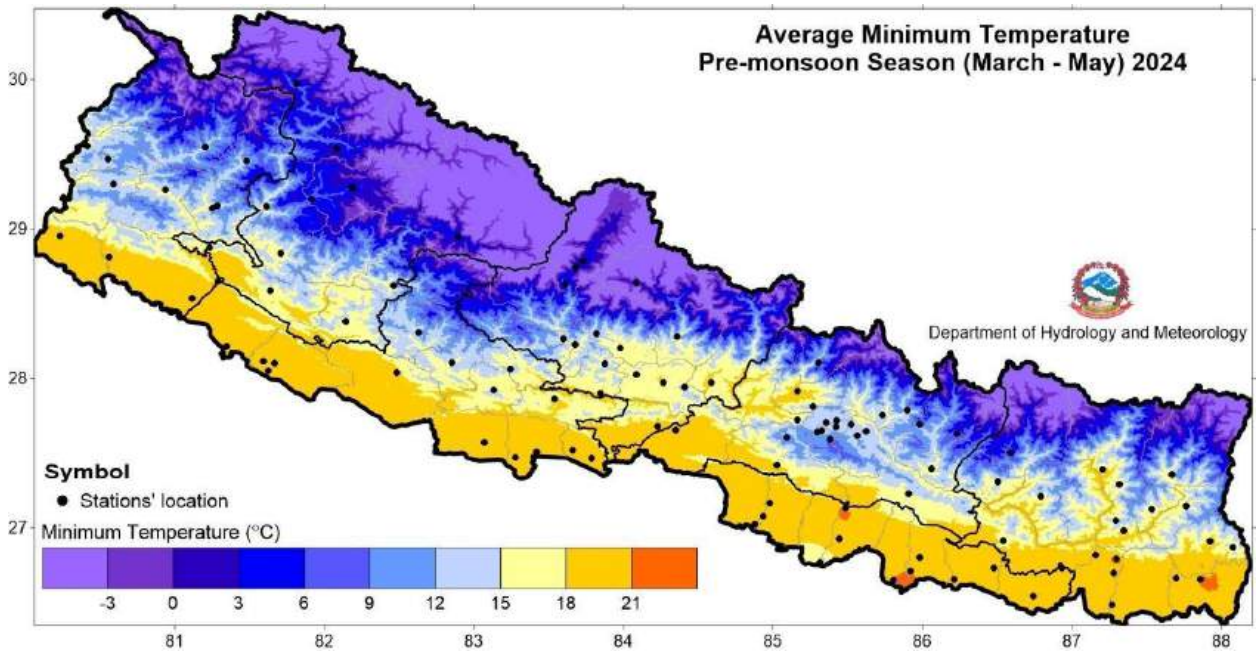

Figure 3.2.8: Minimum temperature in Pre-monsoon 2024.

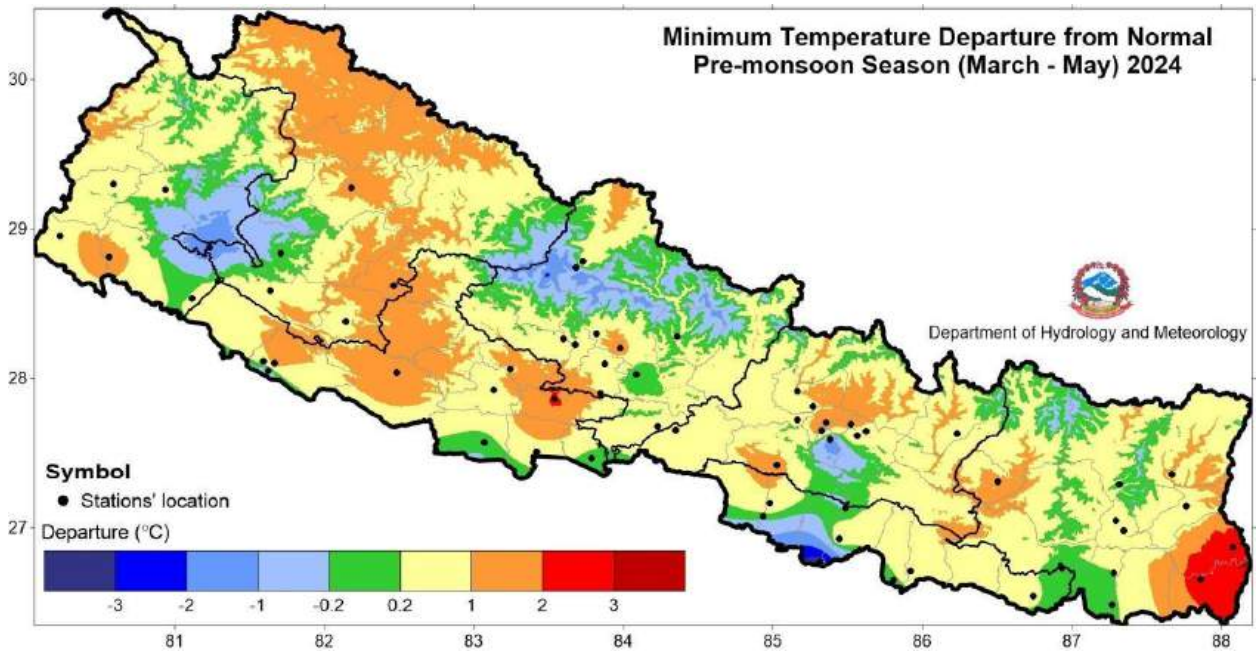

Figure 3.2.9: Departure from normal minimum temperature in Pre-monsoon 2024.

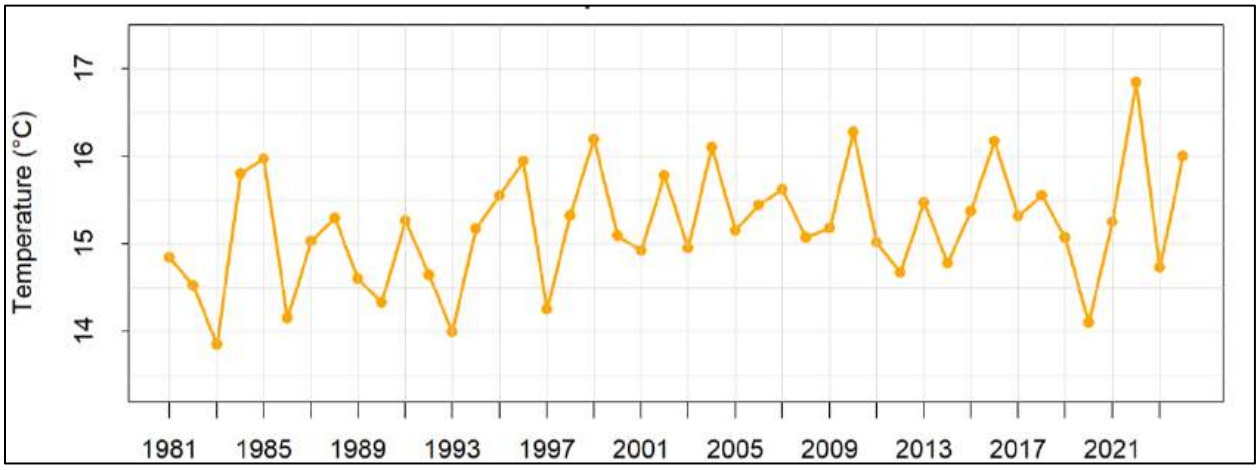

Figure 3.2.10: Interannual variability of all Nepal seasonal average minimum temperature of Pre-monsoon season from 1981 to 2024 (average of 54 stations)

3.3 Monsoon season (June – September)

Onset and Withdrawal of Monsoon

The normal Monsoon onset and withdrawal date in Nepal is 13th June and 2nd October respectively. In Nepal, the four-month period from June to September is considered the Monsoon season. Monsoon entered eastern Nepal three days earlier than normal onset day on 10th June and withdrew from eastern Nepal on 12th October delayed by ten days. The duration of Monsoon this year was 125 days, which was thirteen days longer than the normal Monsoon period (112 days). The dates of onset and withdrawal of monsoon over Nepal are shown in Figure 3.3.1.

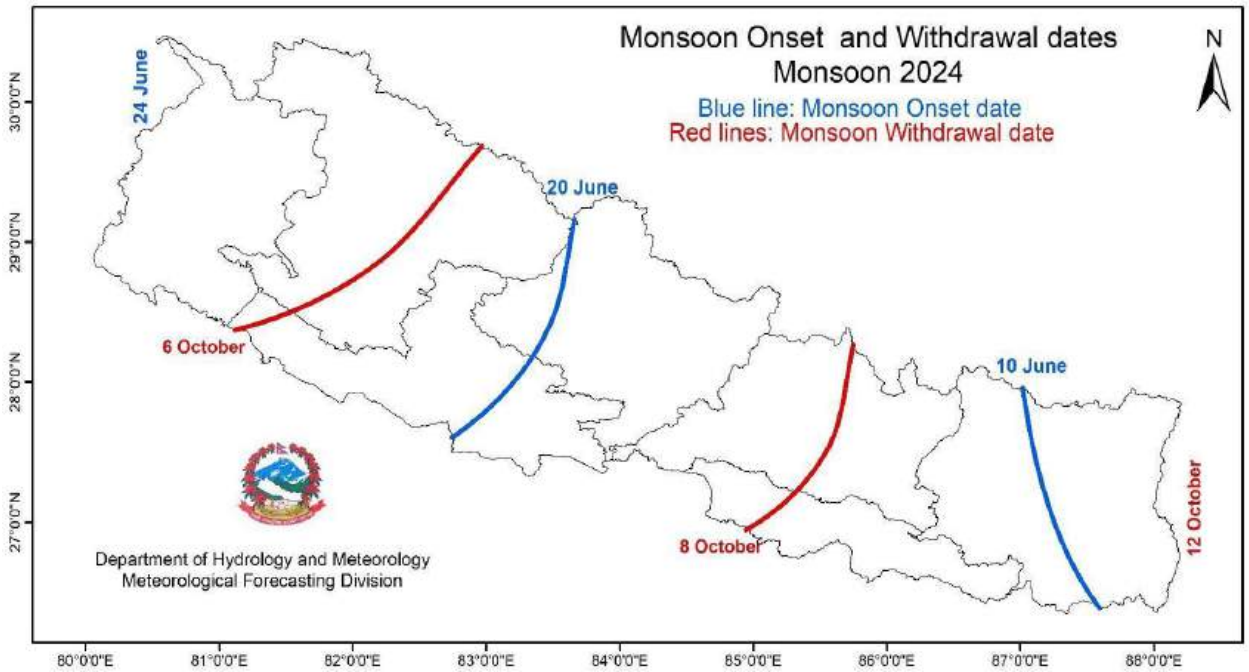

Figure 3.3.1: Monsoon onset and withdrawal dates in 2024.

Precipitation

Country received above normal precipitation during the Monsoon season. Some parts over Kaski district recorded precipitation above 3000 mm while north-western part of Gandaki Province and north-east part of Karnali Province recorded precipitation less than 500 mm (Figure 3.3.2). Most parts of the country recorded above normal precipitation (Figure 3.3.3). However, south-eastern part of Koshi Province, central and western part of Madhesh Province, central part of Gandaki Province, western part of Lumbini Province

and south-western part of Karnali Province recorded near normal precipitation and isolated part over Gandaki and Karnali Province recorded below normal precipitation in this Monsoon season.

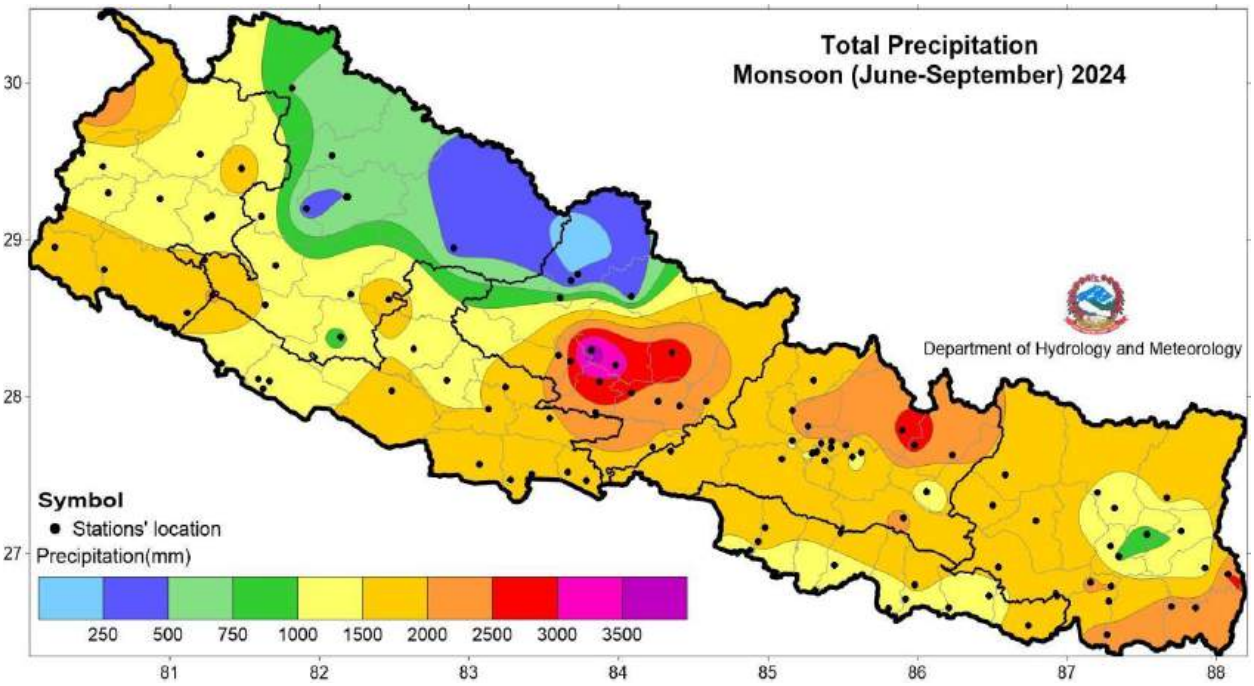

Figure 3.3.2: Total precipitation in Monsoon 2024.

Lumle station of Kaski district recorded the highest seasonal total precipitation of 3949.1 mm while Jomsom station of Mustang district recorded the lowest of 284.1 mm. Similarly, the highest (188.4%) and the lowest (81.4%) percentage of seasonal normal precipitation were recorded at Khumaltar station of Lalitpur district and Nagma station of Kalikot district respectively. Based on the average of 94 stations shown in figure 3, Nepal received 122.0% of the normal precipitation of the season.

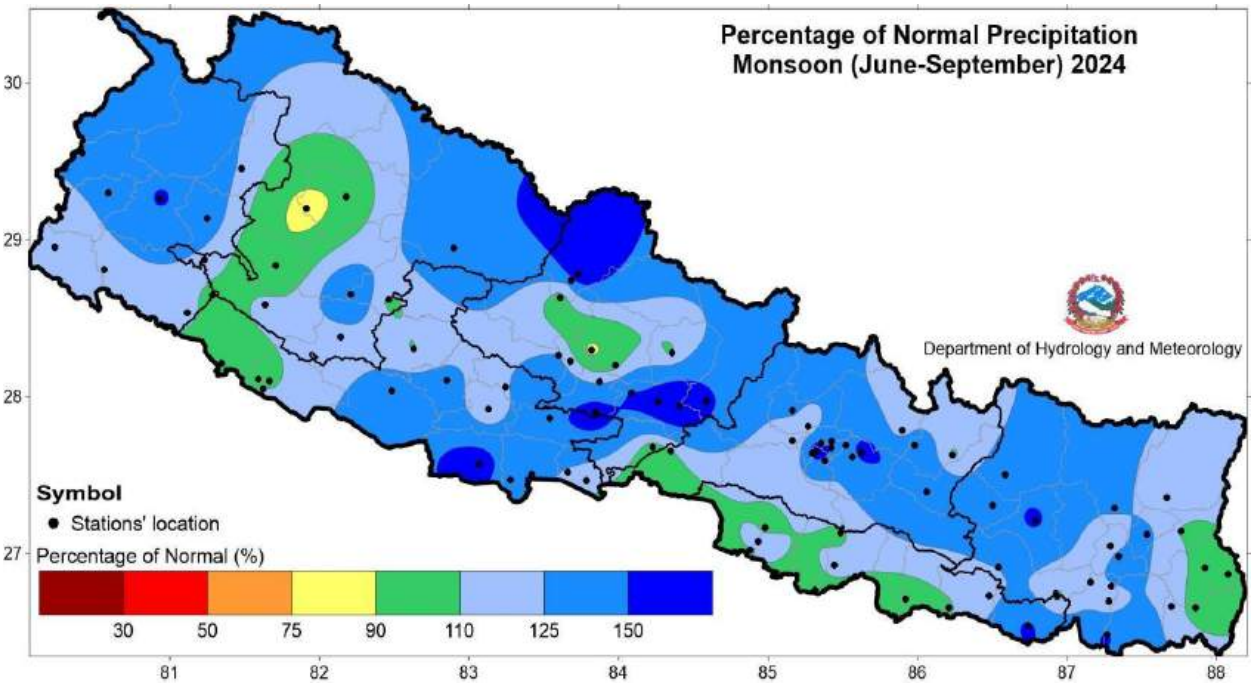

Figure 3.3.3: Percentage of normal precipitation in Monsoon 2024.

The temporal distribution of all Nepal average daily cumulative precipitation shows that precipitation remained near normal in the first and last week of June, below normal in the second and third week of June, and above normal for the remaining of the period (Figure 3.3.4). The country averaged total precipitation of monsoon 2024 was the second highest since 1981 (Figure 3.3.5).

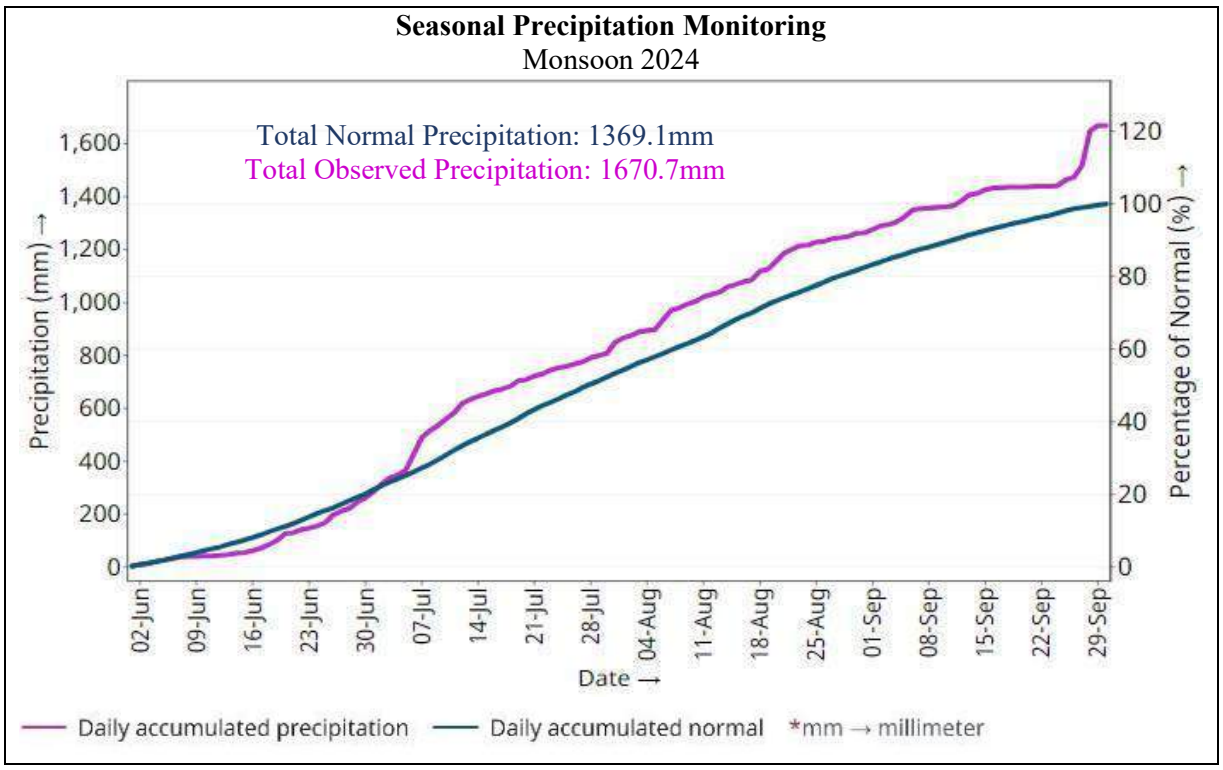

Figure 3.3.4: Cumulative all Nepal daily normal and observed precipitation during Monsoon 2024.

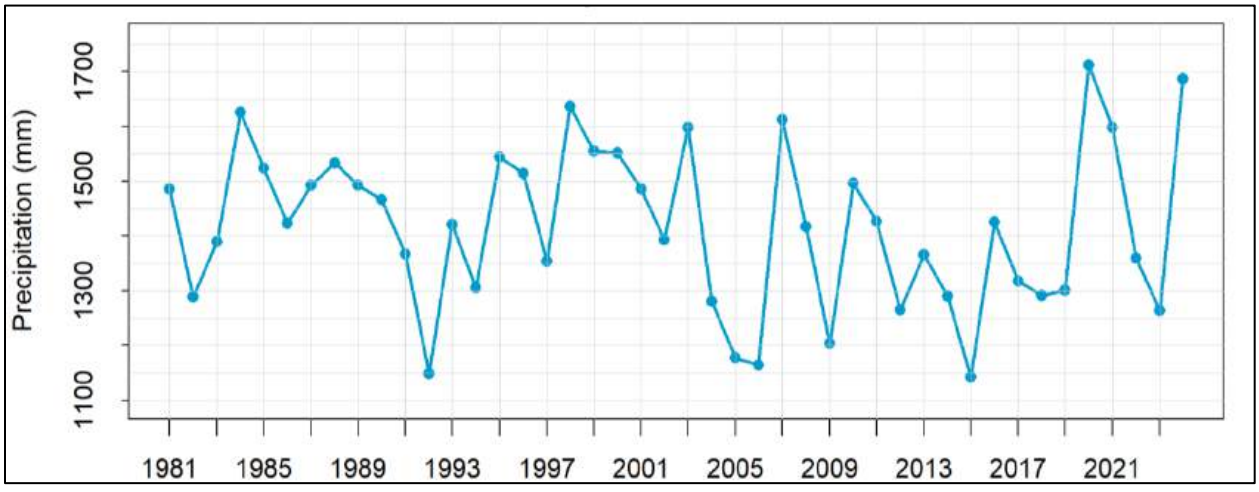

Figure 3.3.5: Interannual variability of all Nepal seasonal total precipitation of Monsoon season from 1981 to 2024 (average of 91 stations).

Maximum Temperature

Northern part of the country recorded seasonal average maximum temperature less than 9°C while the southern plain recorded above 33°C during Monsoon season (Figure 3.3.6). Most parts of the country recorded above normal maximum temperature while a few isolated pockets across the country recorded near-normal to below normal maximum temperature (Figure 3.3.7).

Birgunj station of Parsa district and Humde station of Manang district recorded the highest and lowest seasonal average maximum temperature of 35.7°C and 19.1°C respectively. Similarly, the highest seasonal anomaly of 2.5°C was recorded at Chisapani (Karnali) station of Kailali district and the lowest of -1.3°C was recorded at Semari station of Nawalparasi West district. The highest daily maximum temperature of 44.6°C in the country was recorded at Nepalgunj (Reg.Off.) station of Banke district on 13th June while the lowest daily maximum temperature of 10.0°C was recorded at Humde Station of Manang district on 27th September. Some of the stations broke the previous record of highest maximum temperature in this Monsoon. The country averaged maximum temperature of monsoon 2024 was the second highest since 1981 (Figure 3.3.8).

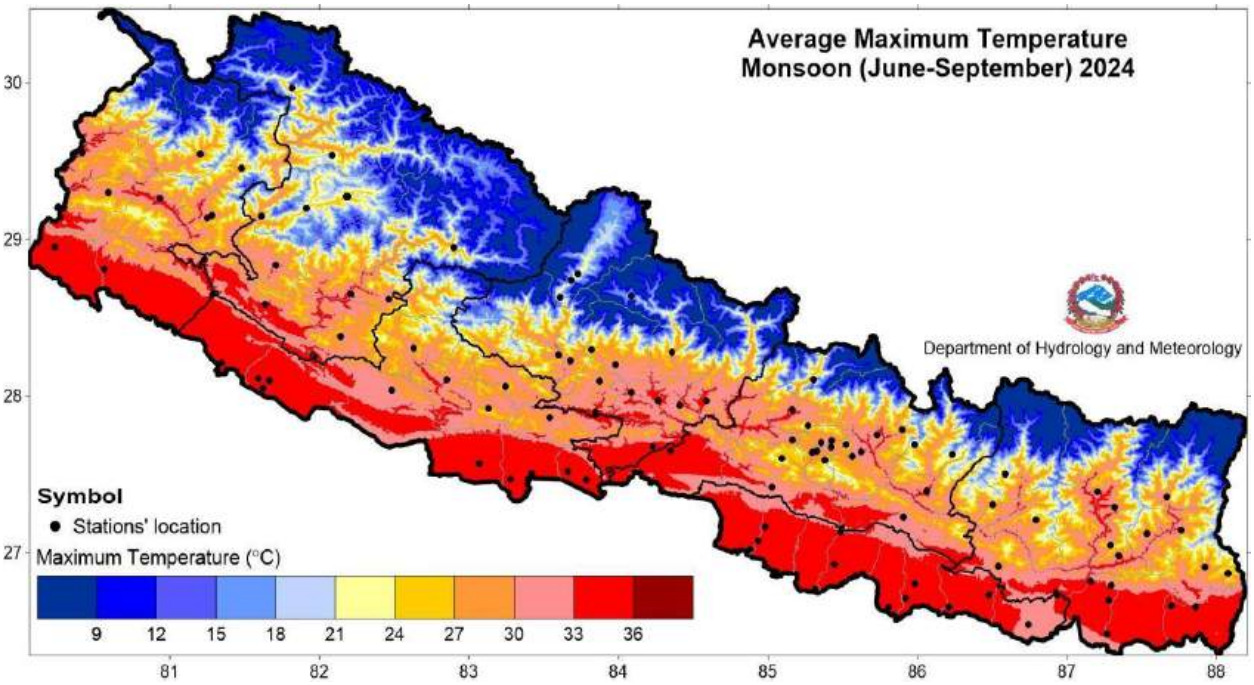

Figure 3.3.6: Maximum Temperature in Monsoon 2024.

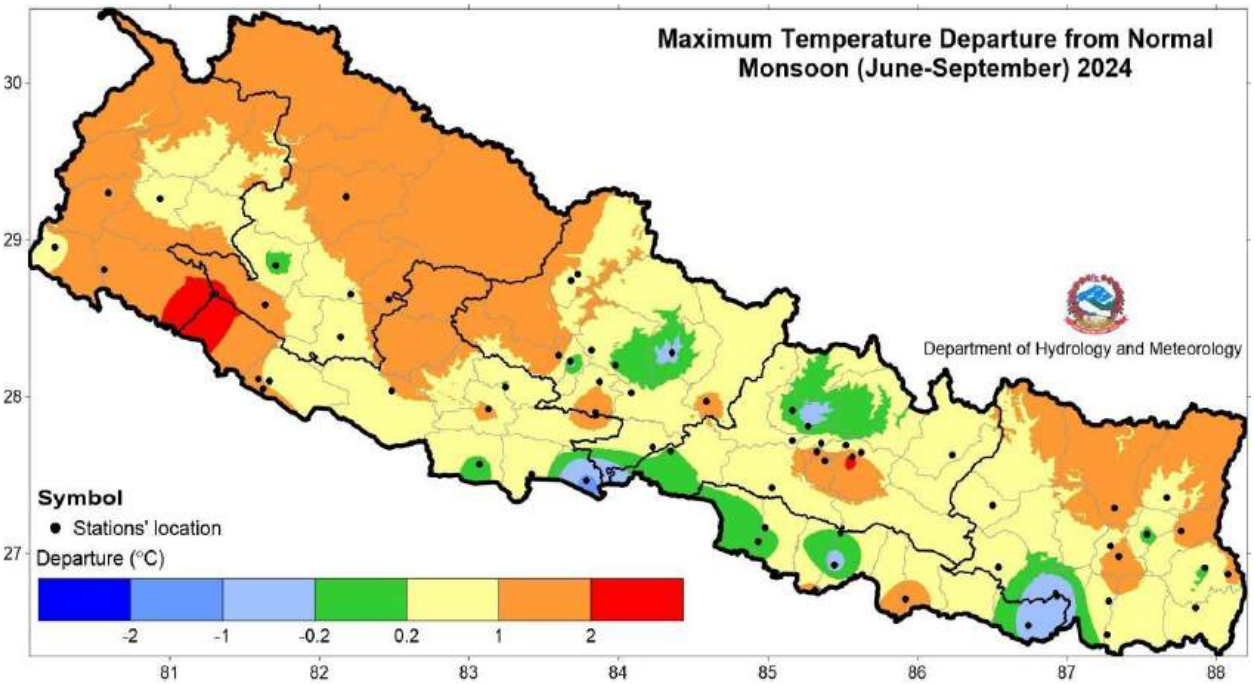

Figure 3.3.7: Departure from normal maximum temperature in Monsoon 2024.

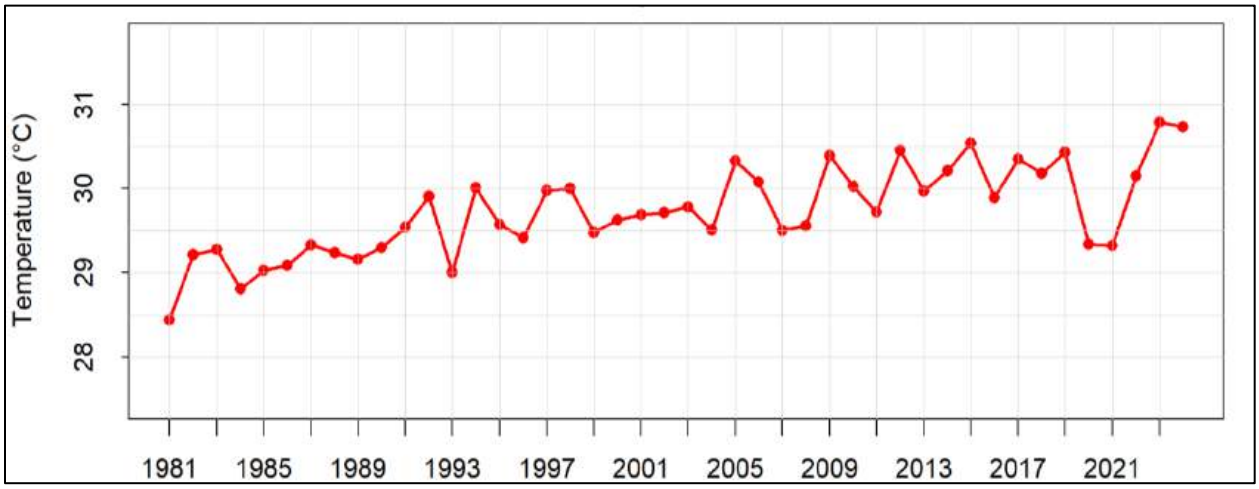

Figure 3.3.8: Interannual variability of all Nepal seasonal average maximum temperature of Monsoon season from 1981 to 2024 (average of 56 stations).

Minimum Temperature

The minimum temperature in the Terai remained above 24°C, reaching over 27°C in some areas (Figure 3.3.9). Most parts of the country recorded above normal minimum temperature while the northern part of Gandaki Province and isolated part over Bagamati Province and Sudurpaschim Province recorded near-normal to below normal temperature (Figure 3.3.10).

Birgunj station of Parsa district and Humde station of Manang district recorded the highest and lowest seasonal average minimum temperature of 27.6°C and 9.8°C respectively. Similarly, the highest seasonal anomaly of 2.7°C was recorded at Chainpur (East) station of Sankhuwasabha district and the lowest anomaly of -2.2°C was recorded at Tikapur station of Kailali district. The highest daily minimum temperature of 31.8°C was recorded at Khajura station of Banke district on 19th June while the lowest daily minimum temperature of 0.5°C was recorded at Humde station of Manang district on 28th September. The country averaged minimum temperature in Monsoon 2024 was the highest since 1981 (Figure 3.3.11).

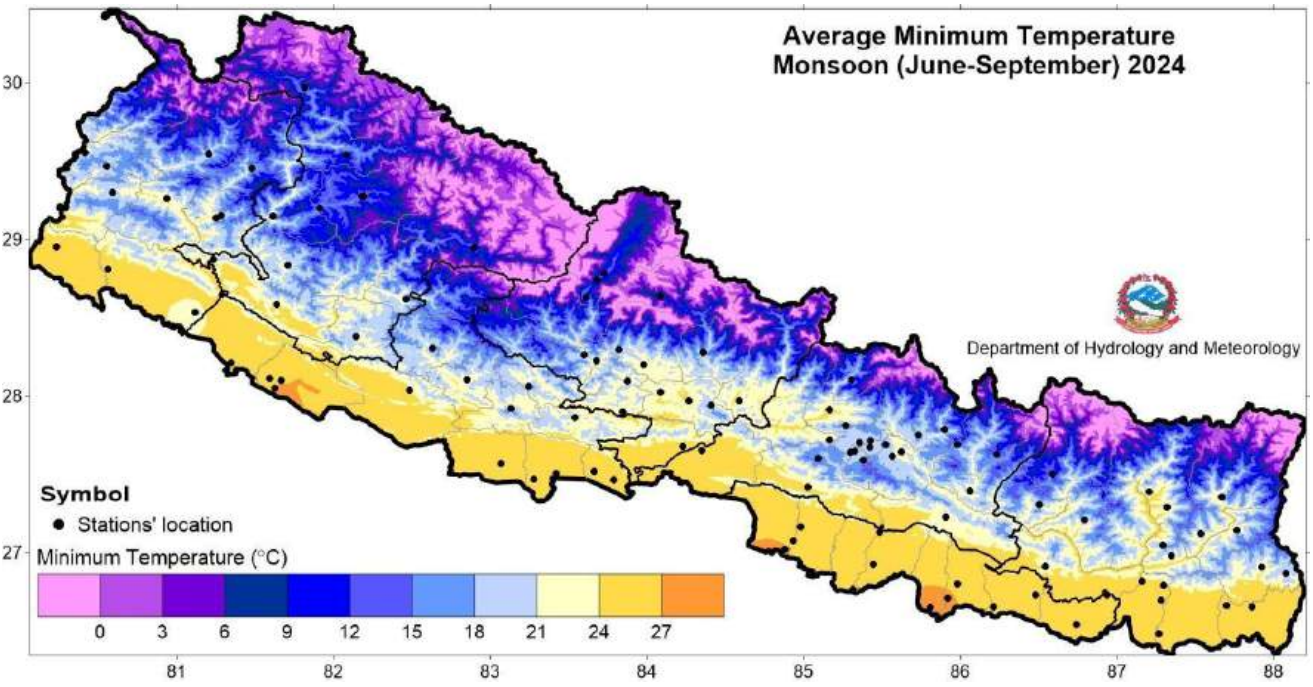

Figure 3.3.9: Minimum Temperature in Monsoon 2024.

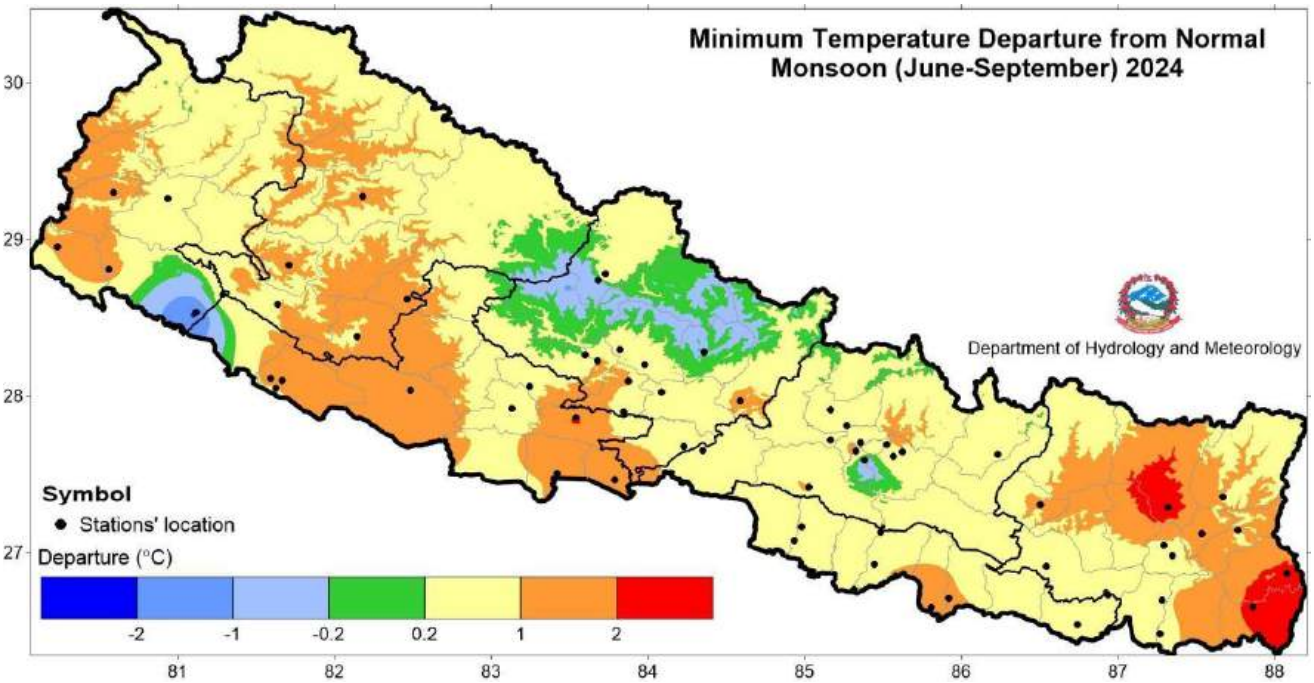

Figure 3.3.10: Departure from normal minimum temperature in Monsoon 2024.

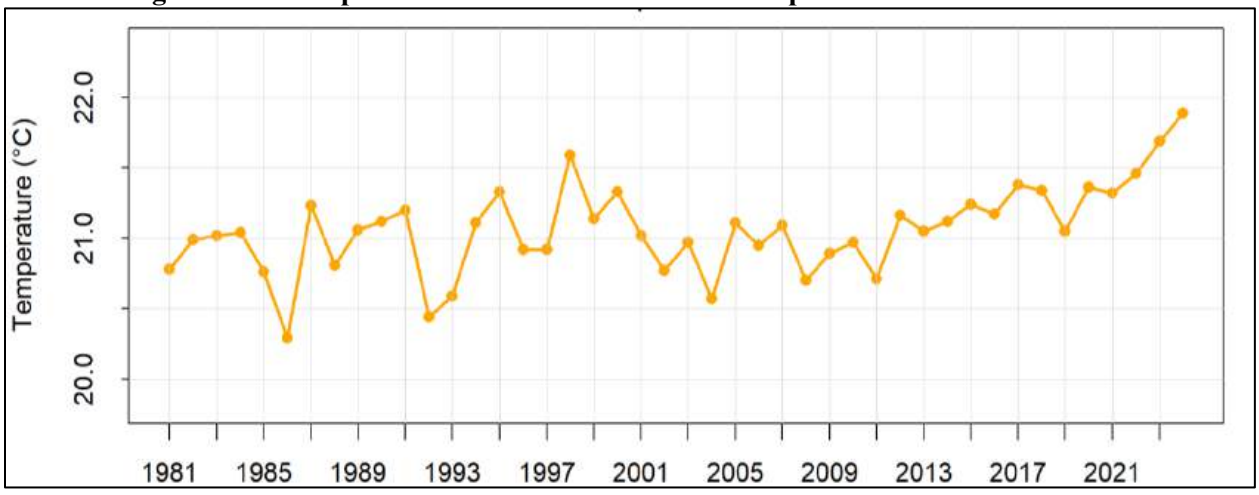

Figure 3.3.11: Interannual variability of all Nepal seasonal average minimum temperature of Monsoon season from 1981 to 2024 (average of 52 stations).

3.4 Post-monsoon season (October – November)

Precipitation

Isolated parts of the Koshi Province and Gandaki Province recorded precipitation above 200mm while the southern part of Sudurpaschim Province and central and north-eastern part of Karnali Province recorded precipitation less than 10 mm (Figure 3.4.1). Most parts of the country recorded below normal precipitation (Figure 3.4.2). However, the central part of Gandaki Province, isolated part of Bagamati Province and Koshi Province recorded normal to above normal precipitation.

Dharan Bazar station of Sunsari district recorded the highest seasonal total precipitation of 381.3 mm with the highest seasonal normal precipitation of 291.9%. Based on the average of 93 stations shown in figure 3, Nepal received 80.4% of the normal precipitation of the season.

The temporal distribution of all Nepal average daily cumulative precipitation shows that precipitation remained normal-near normal in the first week of October, and below normal for the remaining of the period (Figure 3.4.3). The country averaged total precipitation of Post-monsoon 2024 was the lowest since 2021 (Figure 3.4.4).

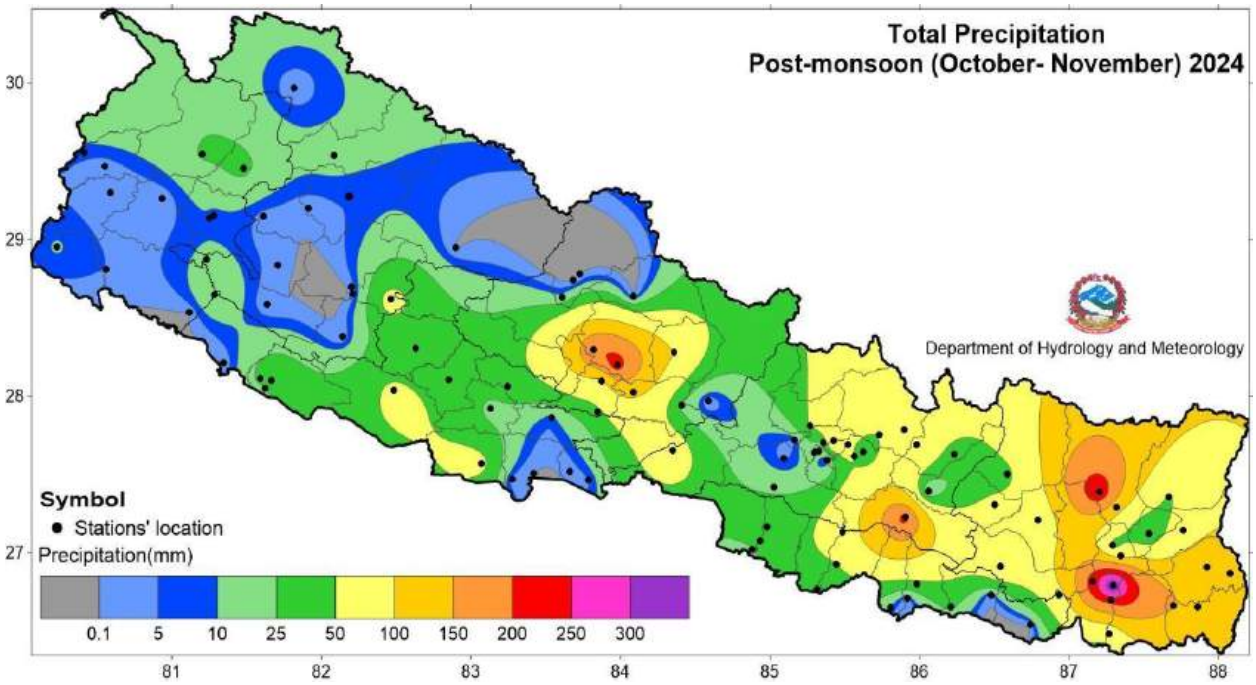

Figure 3.4.1: Total precipitation in Post-monsoon 2024.

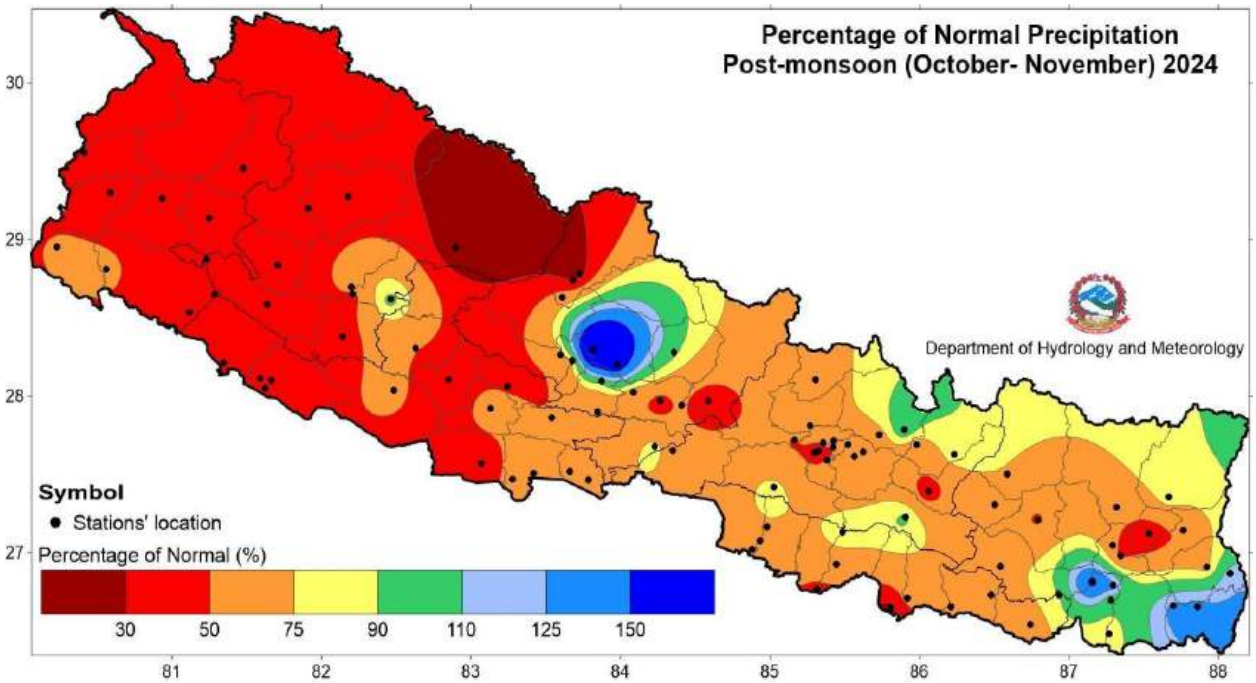

Figure 3.4.2: Percentage of normal precipitation in Post-monsoon 2024.

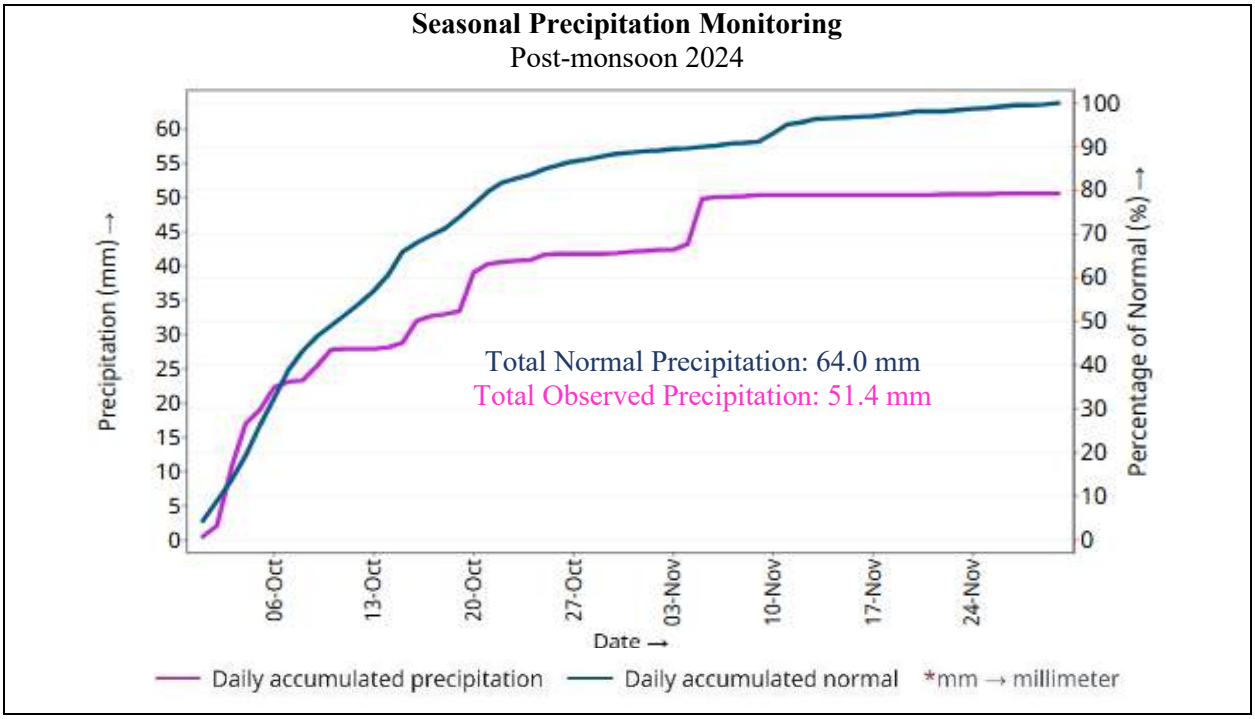

Figure 3.4.3: Cumulative all Nepal daily normal and observed precipitation during Post-monsoon 2024.

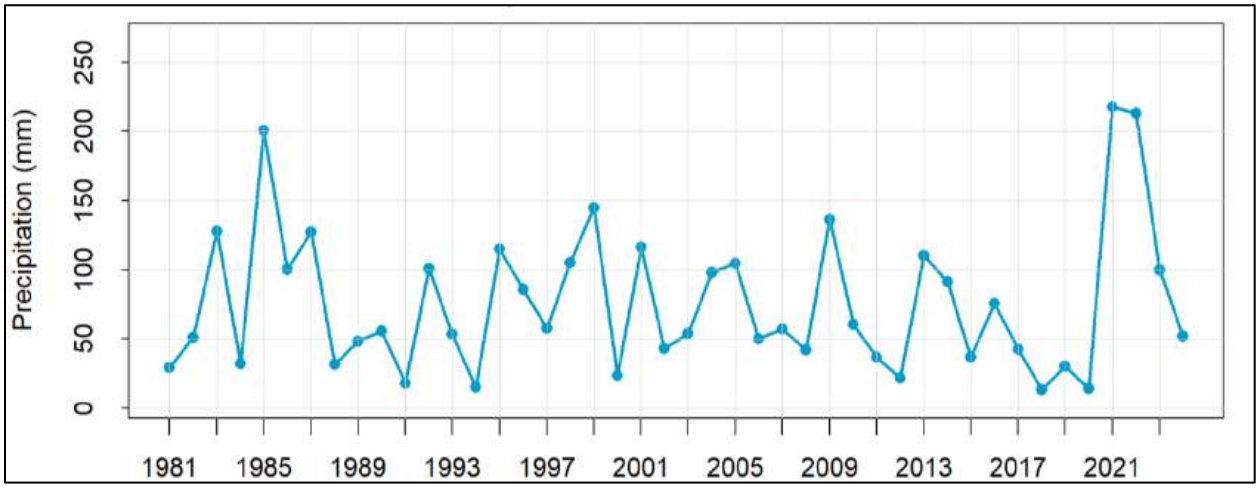

Figure 3.4.4: Interannual variability of all Nepal seasonal total precipitation of Post-monsoon season from 1981 to 2024 (average of 97 stations).

Maximum Temperature

Northern part of the country recorded seasonal average maximum temperature less than 12°C while the southern part recorded above 30°C (Figure 3.4.5). Most parts of the country recorded above normal maximum temperature while a few parts of Karnali Province, Madhesh Province, Bagamati Province and Koshi Province recorded near-normal to below normal maximum temperature (Figure 3.4.6).

Janakpur Airport station of Dhanusha district and Humde station of Manang district recorded the highest and lowest seasonal average maximum temperature of 33.5°C and 13.6°C respectively. Similarly, the highest seasonal anomaly of 3.2°C was recorded at Dhulikhel station of Kavrepalanchok district and the lowest of -1.1°C was recorded at Phattepur station of Saptari district. The highest daily maximum temperature of 37.0°C was recorded at Birganj station of Parsa district on 8th October while the lowest daily

maximum temperature of 6.4°C was recorded at Humde Station of Manang district on 23th November. The country averaged maximum temperature of Post-monsoon 2024 was lower than 2023 (Figure 3.4.7).

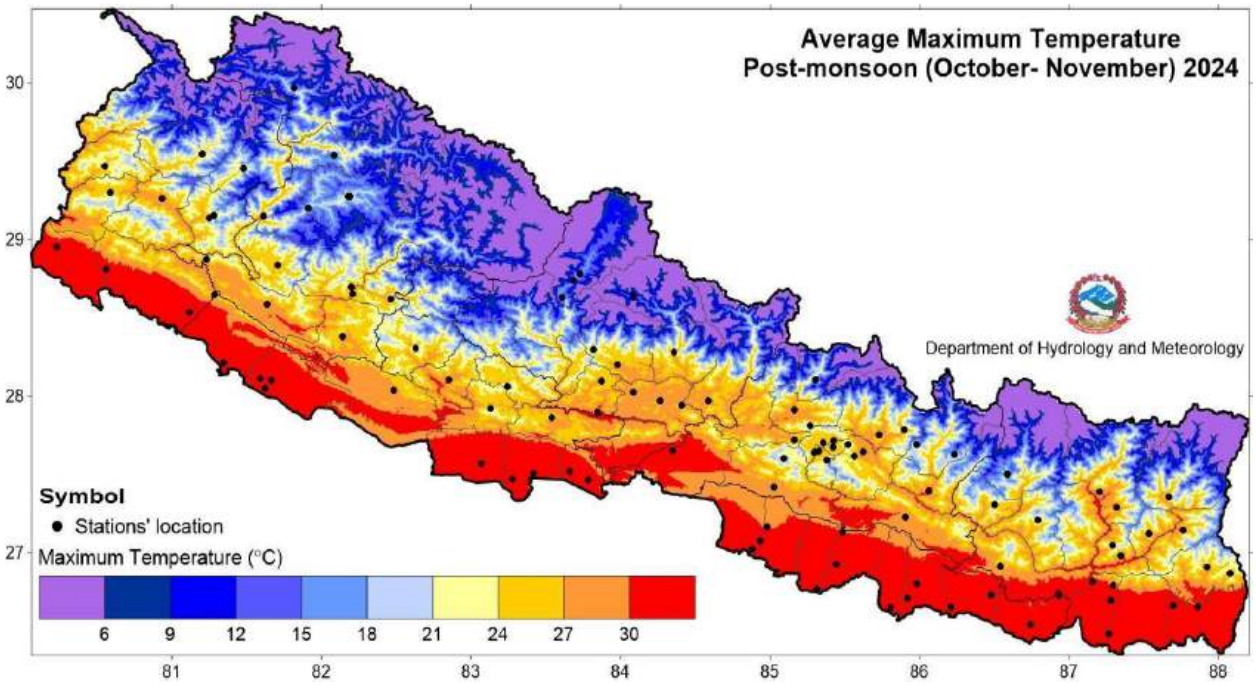

Figure 3.4.5: Maximum Temperature in Post-monsoon 2024.

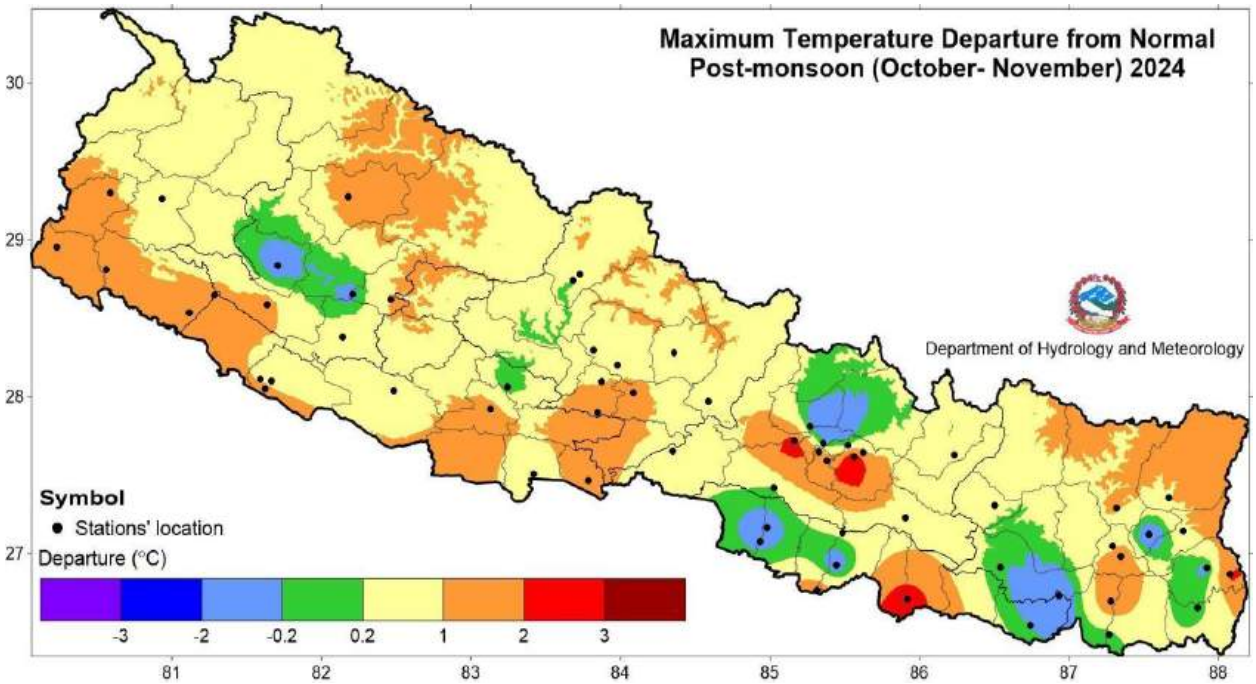

Figure 3.4.6: Departure from normal maximum temperature in Post-monsoon 2024.

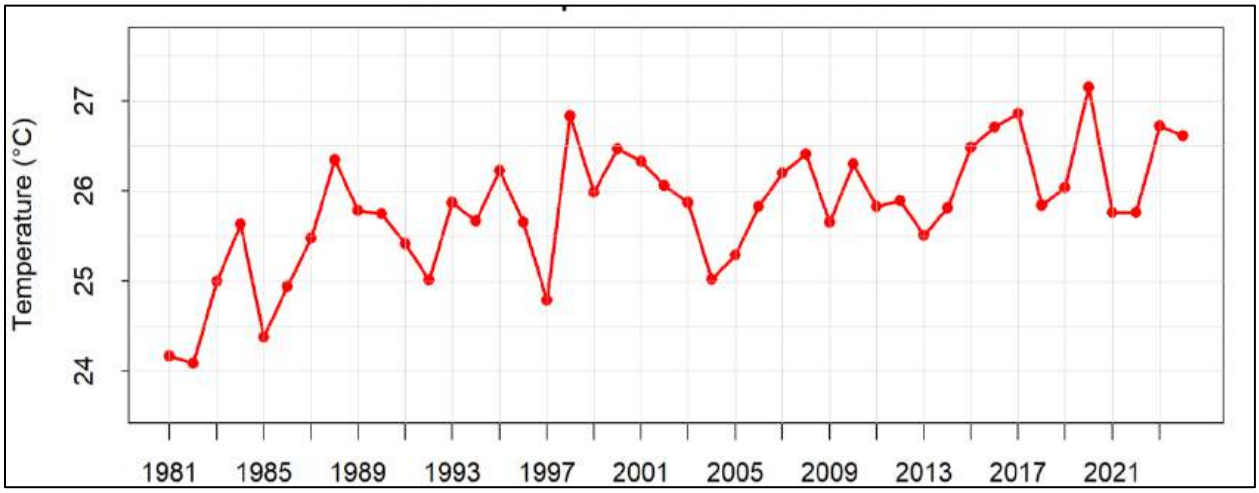

Figure 3.4.7: Interannual variability of all Nepal seasonal average maximum temperature of Post-monsoon season from 1981 to 2024 (average of 56 stations).

Minimum Temperature

The minimum temperature in the most part of Terai remained above 18°C (Figure 3.4.8). Northern part of the country recorded below normal minimum temperature while the southern part recorded above normal temperature (Figure 3.4.9).

Jaleshwor station of Mahottari district and Humde station of Manang district recorded the highest and lowest seasonal average minimum temperature of 22.1°C and -0.5°C respectively. Similarly, the highest seasonal anomaly of 4.8°C was recorded at Chainpur (East) station of Sankhuwasabha district and the lowest anomaly of -2.0°C was recorded at Tikapur station of Kailali district. The highest daily minimum temperature of 28.5°C was recorded at Rampur station of Chitwan district on 8th October while the lowest daily minimum temperature of -8.2°C was recorded at Humde station of Manang district on 24th November. The country averaged minimum temperature in Post-monsoon 2024 has been higher since 1999 (Figure 3.4.10).

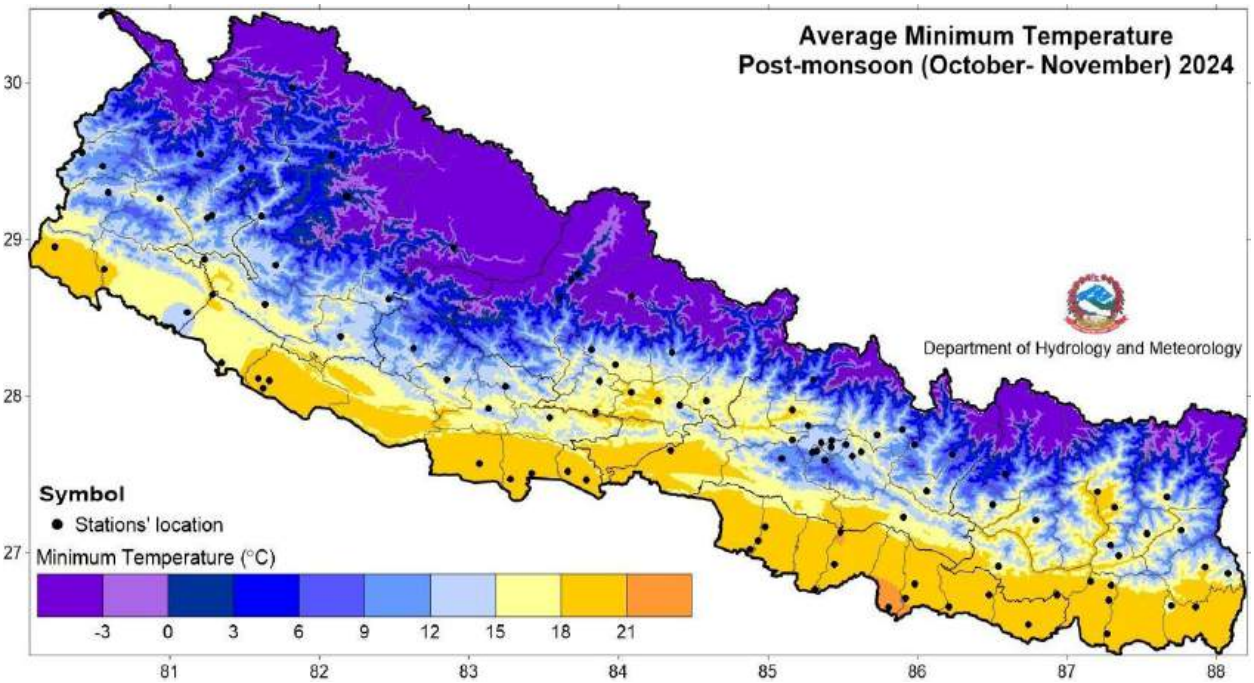

Figure 3.4.8: Minimum Temperature in Post-monsoon 2024.

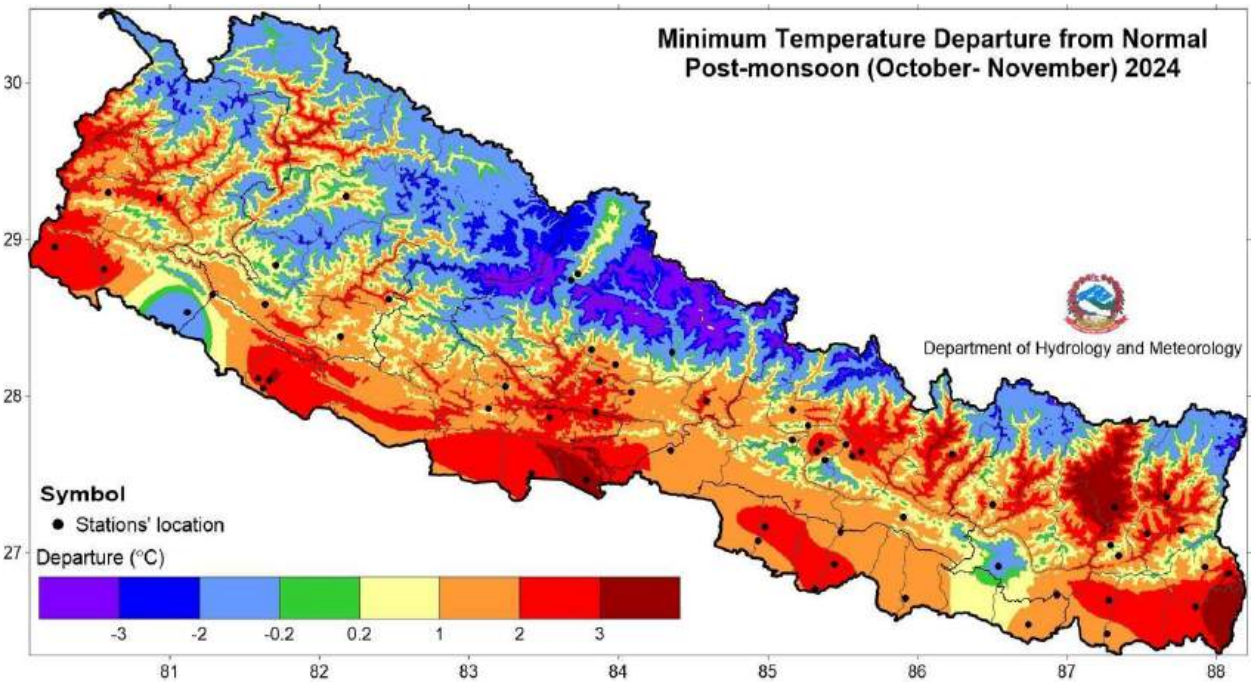

Figure 3.4.9: Departure from normal minimum temperature in Post-monsoon 2024.

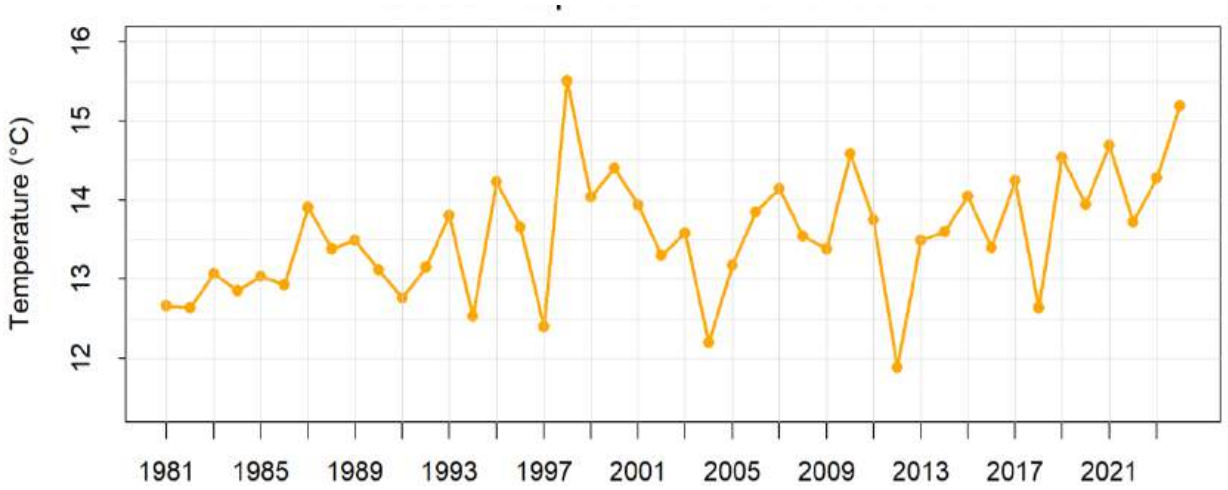

Figure 3.4.10: Interannual variability of all Nepal seasonal average minimum temperature of Post-monsoon season from 1981 to 2024 (average of 56 stations).

4. Monthly Weather

4.1 January

Highlights

Nepal experienced dry weather conditions with isolated light snow and rain over some places and dense fog conditions persisted over isolated places. Daytime temperatures were cooler than normal over the Terai region and warmer at hilly and mountainous regions. Nighttime temperatures were cooler in the western hilly regions and warmer at southern and eastern parts of the country.

Synoptic Sequences

A number of weak western disturbances and an active western disturbance towards the end of January affected the weather of Nepal.

Precipitation

Country recorded below normal precipitation in January. Isolated part of Gandaki Province and Bagamati Province recorded precipitation above 10 mm while the rest of the country recorded precipitation below 10 mm (Figure 4.1.1., Figure 4.1.2).

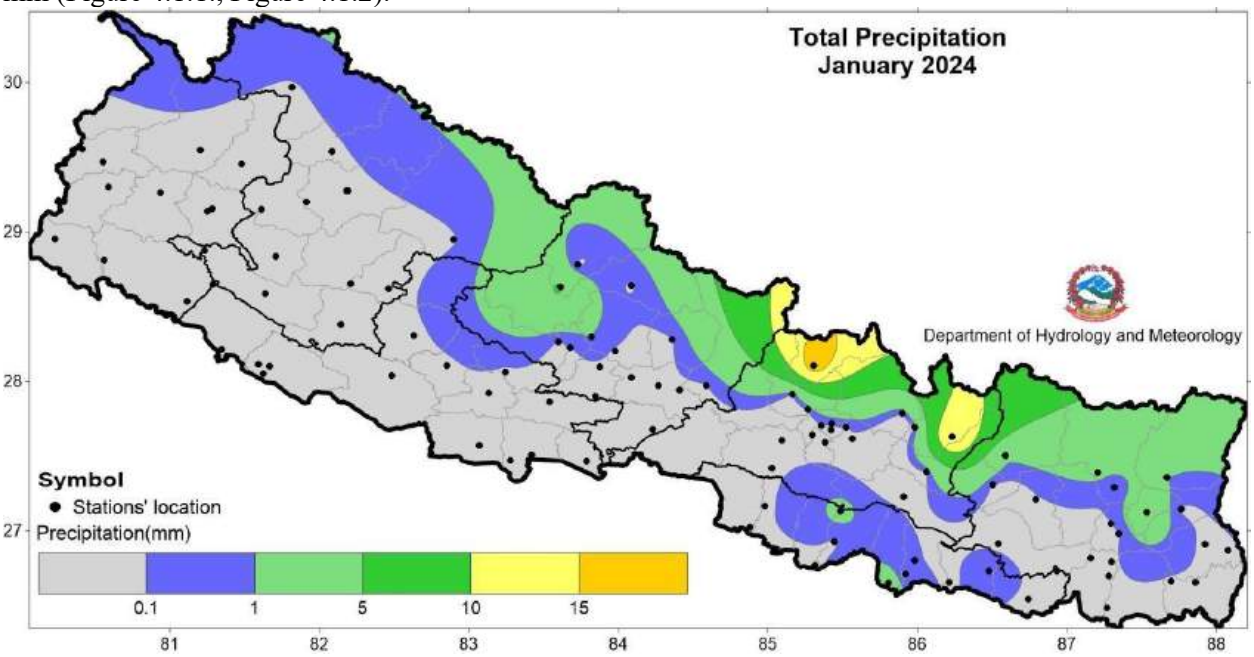

Figure 4.1.1: Total precipitation in January 2024.

Dhunche station of Dhading district recorded the highest monthly total precipitation of 17.7 mm in January 2024. The highest (91.9%) percentage of monthly normal precipitation was recorded at Jiri station of Dolakha district which also recorded the highest 24-hours precipitation of 15.9 mm on 17th January. Out of 103 stations, 82 stations didn't record any precipitation, 7 stations recorded traces and 14 stations recorded precipitation ranging from 0.1 mm to 17.7 mm. Based on the average of 90 stations (stations with monthly normal precipitation data), Nepal received 2.5% of the normal precipitation of the month.

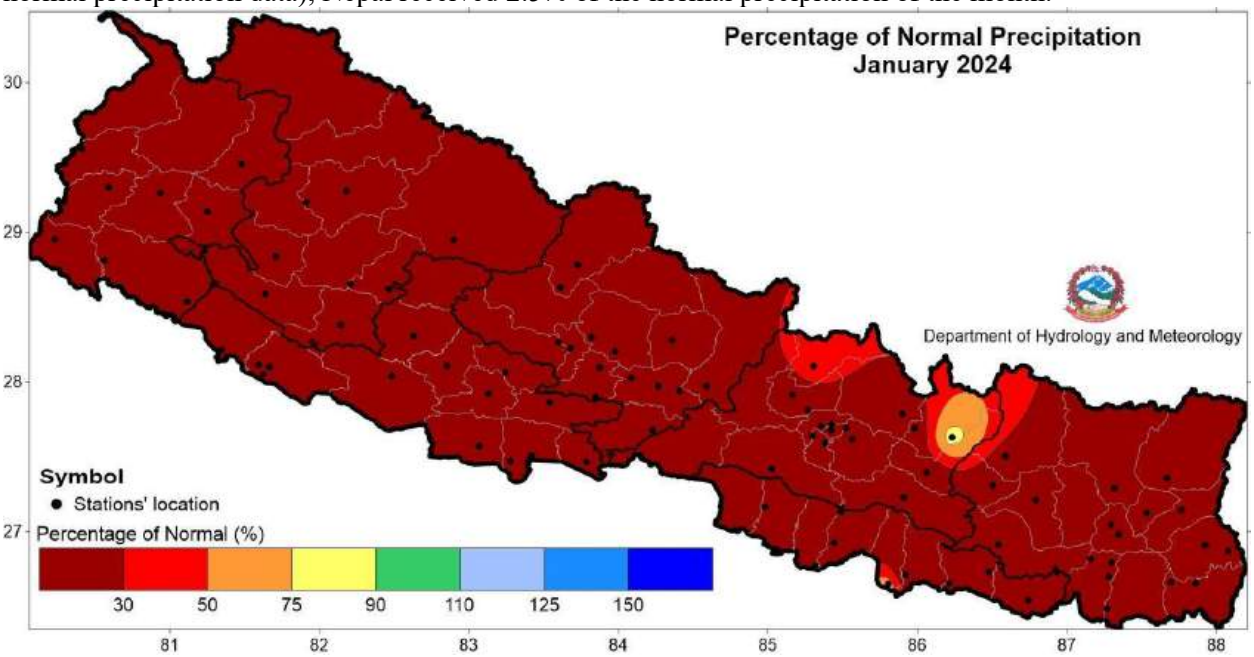

Figure 4.1.2: Percentage of normal precipitation in January 2024.

The temporal distribution of all Nepal average daily cumulative of daily precipitation shows that precipitation remained below normal during the month of January (Figure 4.1.3). The country averaged total precipitation of January 2024 was one of the driest months since 1981 (Figure 4.1.4).

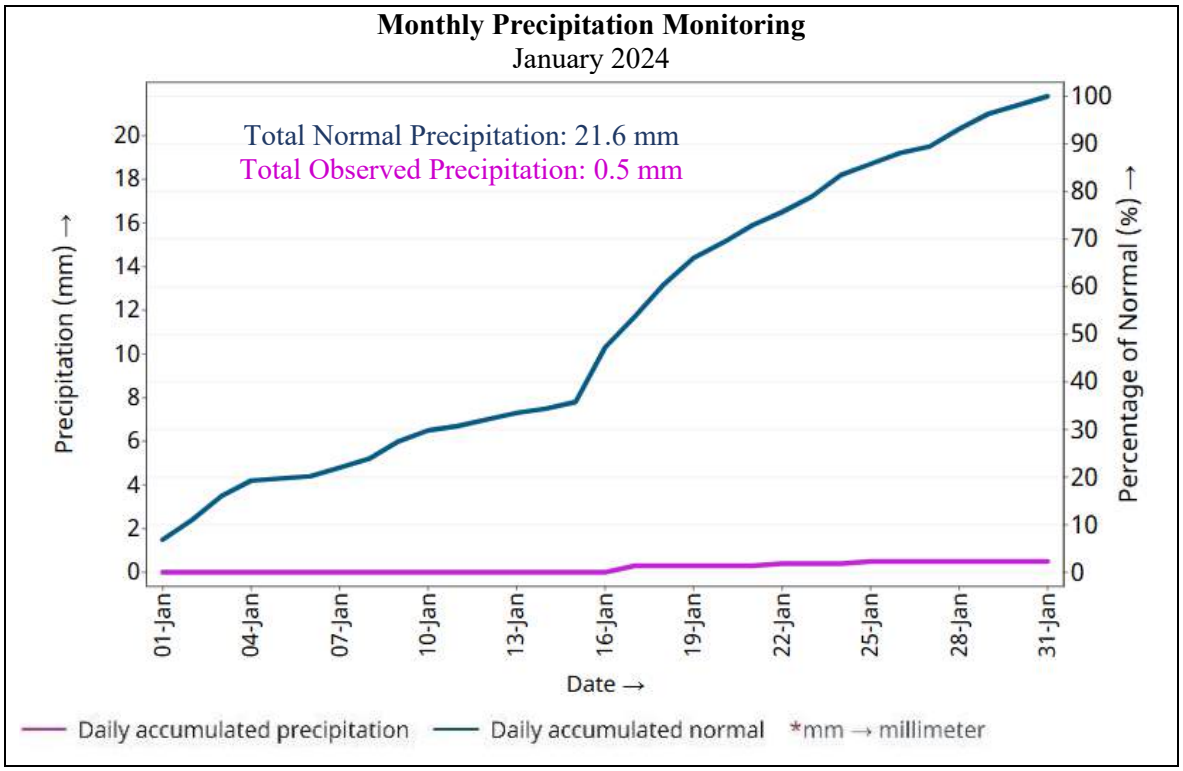

Figure 4.1.3: Cumulative all Nepal daily normal and observed precipitation during January 2024.

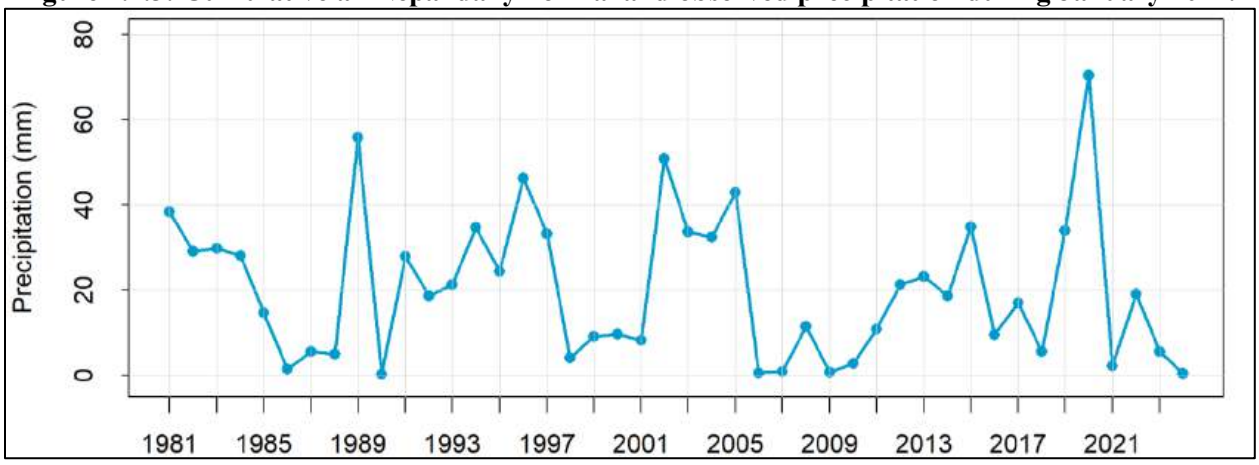

Figure 4.1.4: Interannual variability of all Nepal monthly total precipitation of January from 1981 to 2024 (average of 96 stations).

Maximum Temperature

In January, maximum temperatures were above normal in the central and northern regions, while the southern plains experienced near-normal to below-normal (Figure 4.1.6).The eastern part of the Terai was warmer compared to the western Terai (Figure 4.1.5).

Manthali station of Ramechhap district and Humde station of Manang district recorded the highest and lowest monthly average maximum temperature of 24.6°C and 5.5°C respectively. Similarly, the highest monthly anomaly of 3.7°C was recorded at Dhulikhel station of Kavrepalanchok district and the lowest of -4.3°C was recorded at Tikapur station of Kailali district. The highest daily maximum temperature of

29.6°C was recorded at Gaur station of Rautahat district on 1st January while the lowest daily maximum temperature of 1.9°C was recorded at Humde of Manang district on 23rd January. The country averaged maximum temperature in January 2024 was lower than in 2023 (Figure 4.1.7).

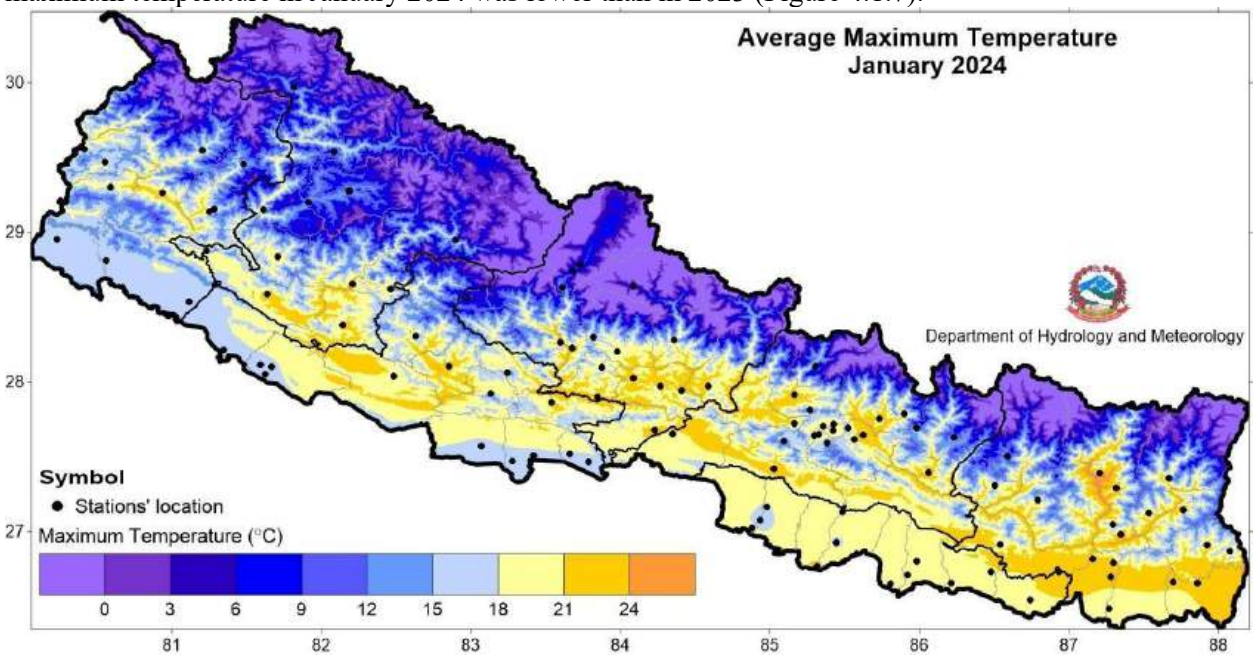

Figure 4.1.5: Maximum Temperature in January 2024.

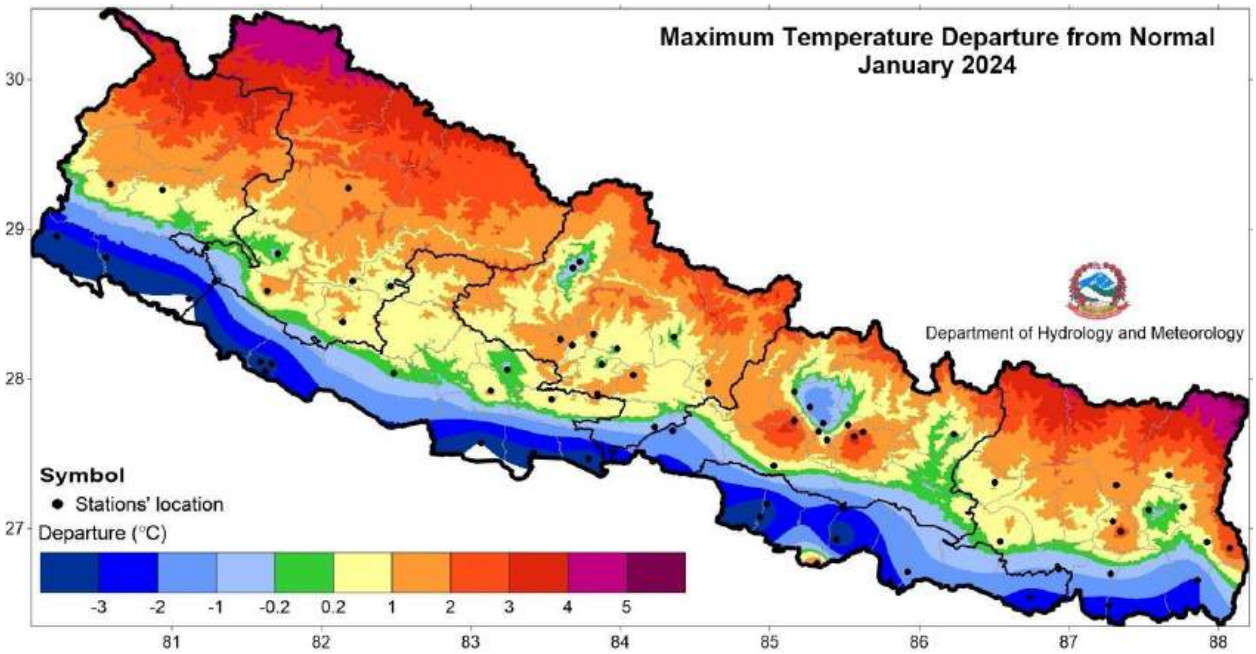

Figure 4.1.6: Departure from normal maximum temperature in January 2024.

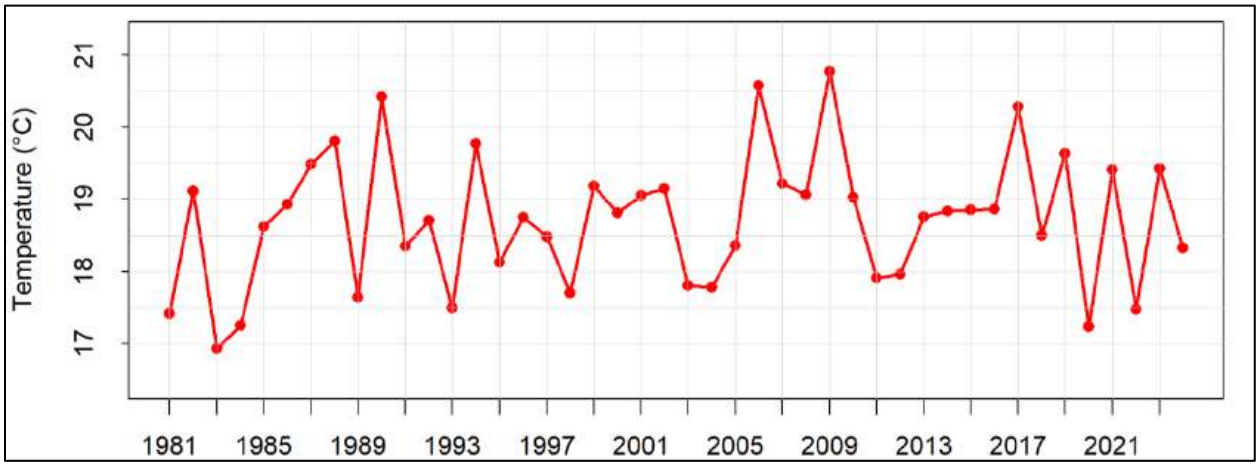

Figure 4.1.7: Interannual variability of all Nepal monthly average maximum temperature of January from 1981 to 2024 (average of 58 stations).

Minimum Temperature

In January, southern part of the Sudurpaschim Province and Gandaki Province, most part of Lumbini Province, Madhesh Province, Koshi province, and north-eastern part of Bagamati Province recorded above normal minimum temperature while rest of the country recorded near-normal to below normal temperatures (Figure 4.1.9). The eastern Terai experienced warmer minimum temperatures than western Terai (Figure 4.1.8).

Karmaiya station of Sarlahi district and Humde station of Manang district recorded the highest and lowest monthly average minimum temperature of 10.5°C and -9.0°C respectively. Similarly, the highest monthly anomaly of 3.1°C was recorded at Chainpur station of Sankhuwasabha district and the lowest anomaly of -2.9°C was recorded at Pusma Camp station of Surkhet district. The highest daily minimum temperature of 14.9°C was recorded at Phattepur station of Saptari district on 2nd January while the lowest daily minimum temperature of -12.1°C was recorded at Humde station of Manang district on 25th January. The country averaged minimum temperature of January 2024 was the lowest since 2021 (Figure 4.1.10).

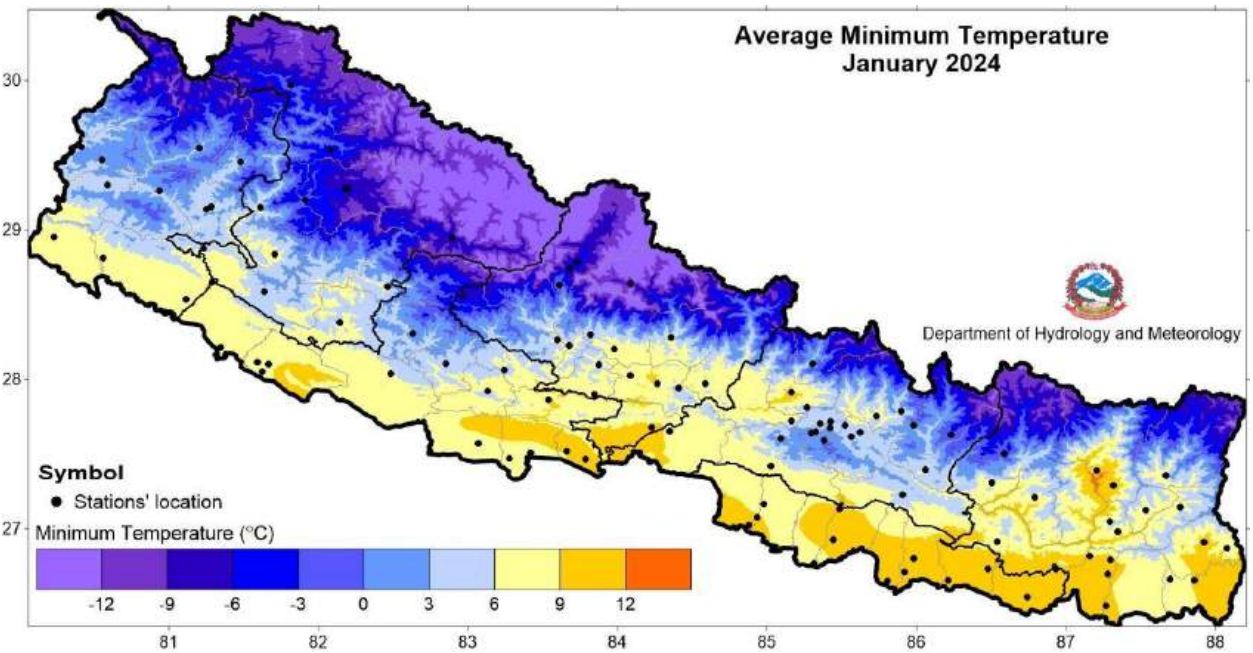

Figure 4.1.8: Minimum Temperature in January 2024.

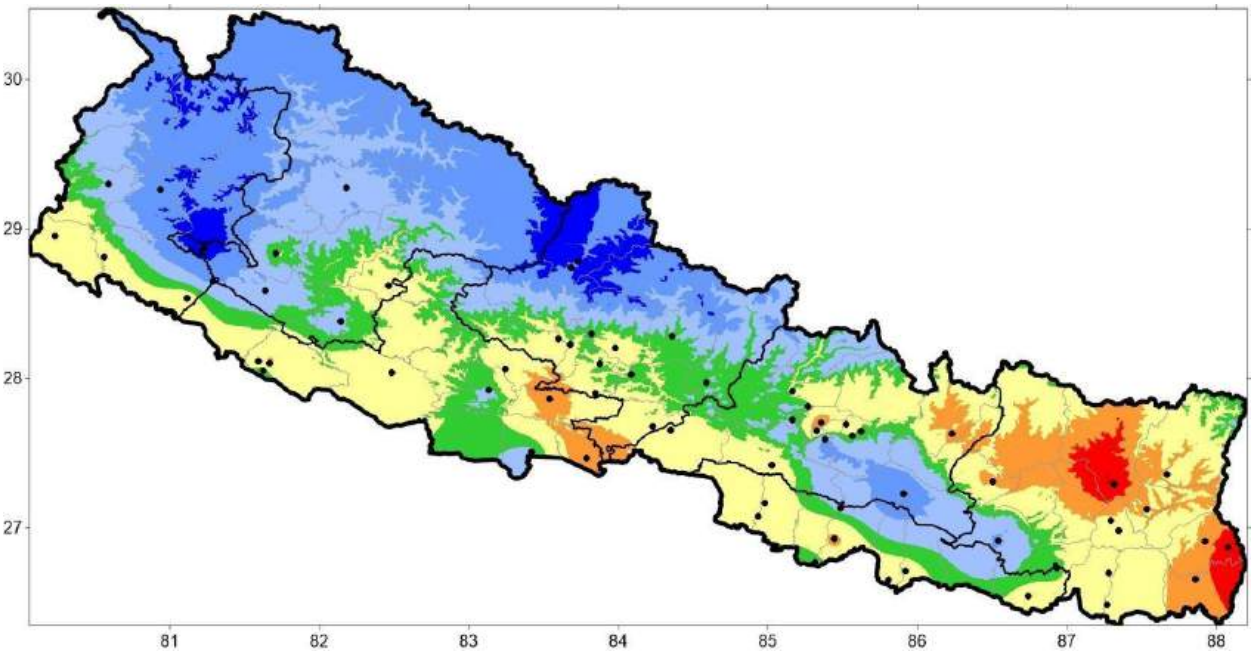

Figure 4.1.9: Departure from normal minimum temperature in January 2024.

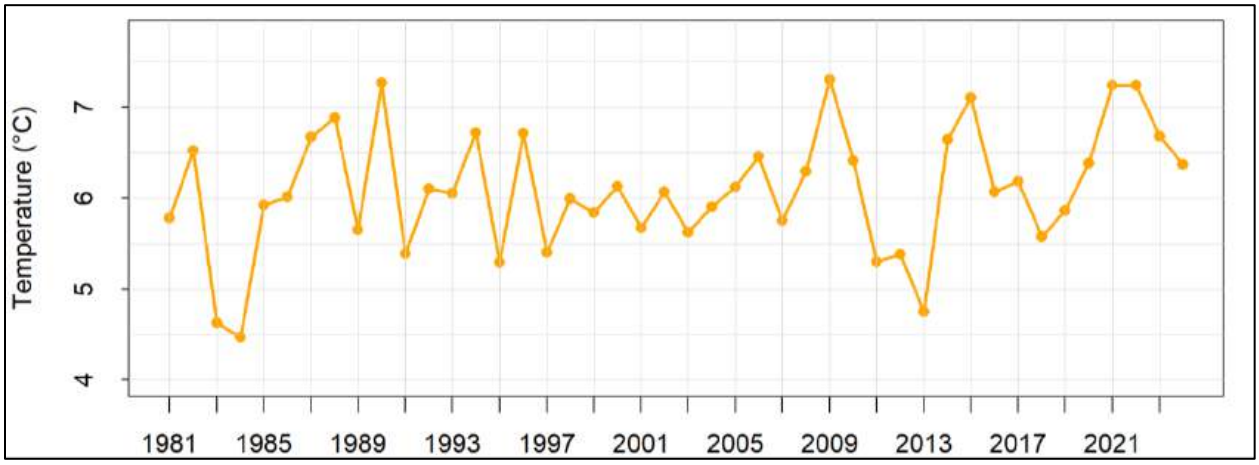

Figure 4.1.10: Interannual variability of all Nepal monthly average minimum temperature of January from 1981 to 2024 (average of 58 stations).

4.2 February

Highlights

Nepal experienced light to moderate snow over the northern region throughout the month. Light rain over scattered places was observed during the first week. Precipitation over the country as a whole was 30% of the normal, indicating dry conditions. The country experienced cooler temperature across most parts.

Synoptic Sequence

A number of western disturbances affected the weather of Nepal.

Precipitation

Country recorded below normal precipitation in February (Figure 4.2.2). However, the northern part of Sudurpaschim Province and north-western part of Karnali Province recorded normal to above normal precipitation with precipitation greater than 50 mm. Martadi station of Bajura district recorded the highest monthly total precipitation of 90.7 mm with the highest (123.6%) percentage of monthly normal

precipitation. The highest 24-hours precipitation of 32.5 mm on 20th February was recorded on Rara station of Mugu district. Based on the average of 99 stations (stations with monthly normal precipitation data), Nepal received 30% of the normal precipitation.

The temporal distribution of all Nepal average daily cumulative of daily precipitation shows that precipitation was above normal during the first week of February, but remained below normal for the rest of the month (Figure 4.2.3). The country averaged total precipitation of February 2024 was higher than in 2023 (Figure 4.2.4).

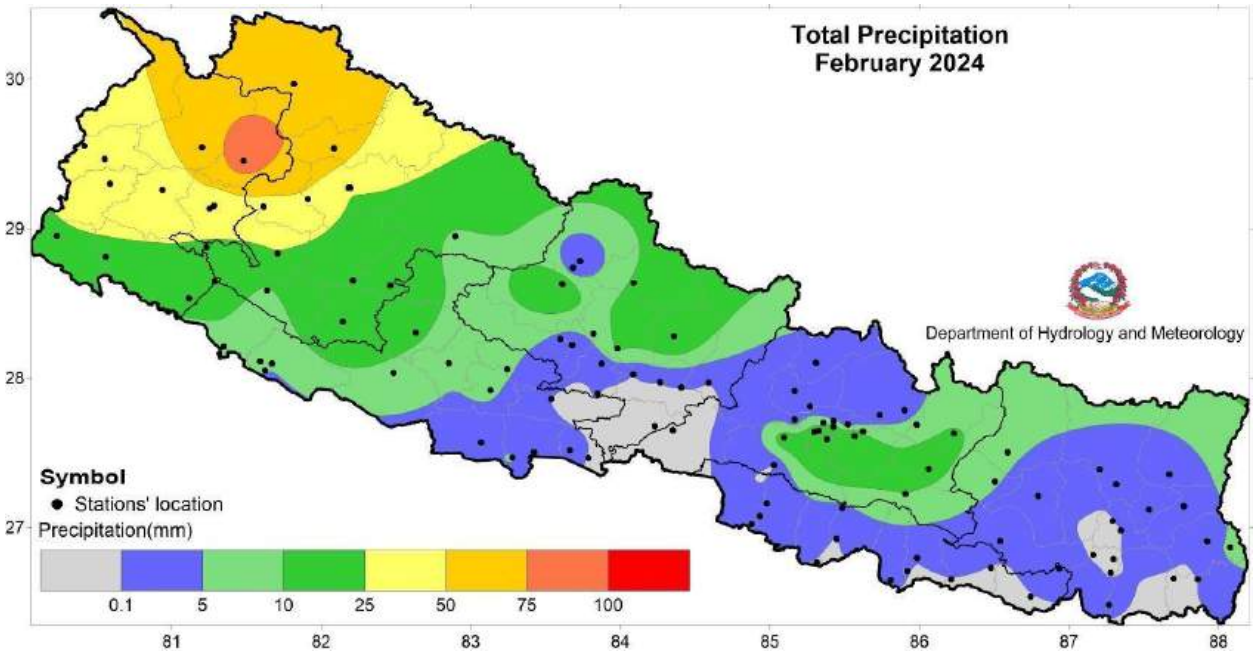

Figure 4.2.1: Total precipitation in February 2024.

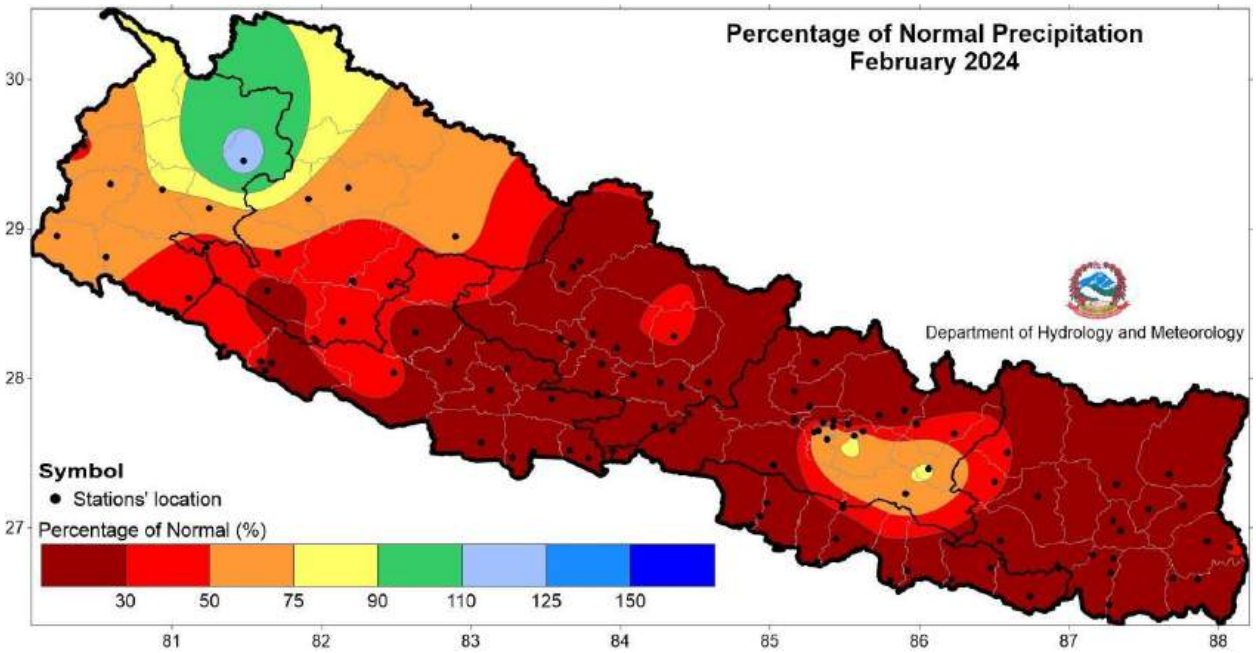

Figure 4.2.2: Percentage of normal precipitation in February 2024.

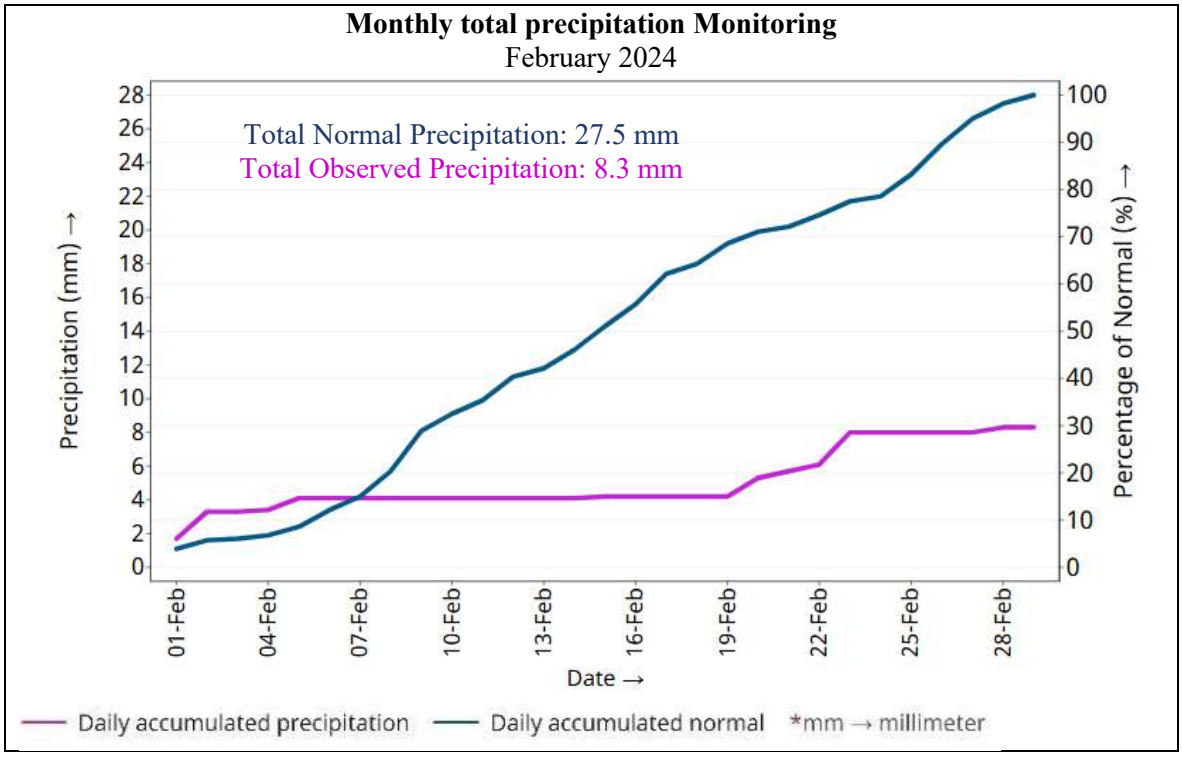

Figure 4.2.3: Cumulative all Nepal daily normal and observed precipitation during February 2024.

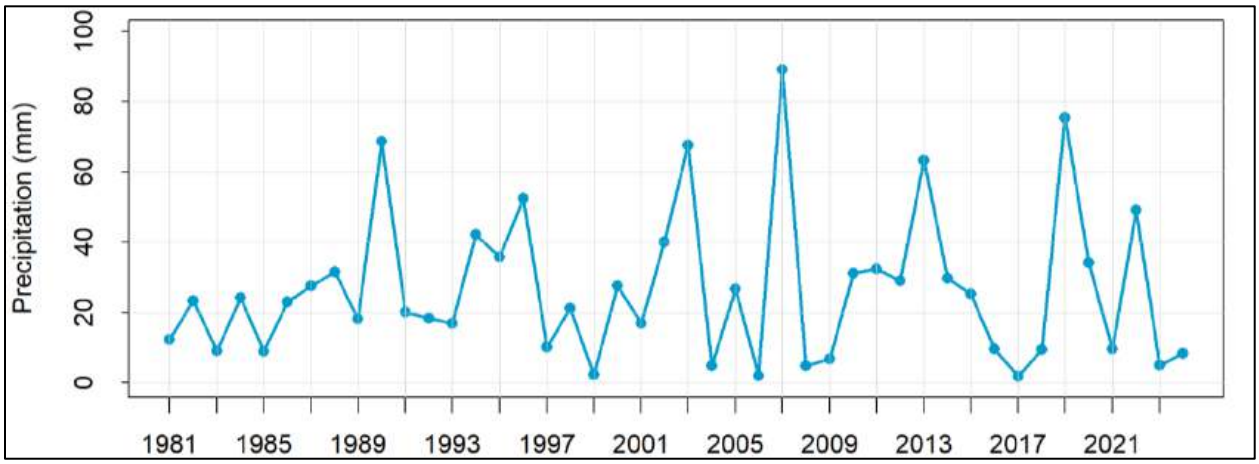

Figure 4.2.4: Interannual variability of all Nepal monthly total precipitation of February from 1981 to 2024 (average of 96 stations).

Maximum Temperature

Southern part of Gandaki Province and Bagamati Province, central part of Madhesh Province and northern and eastern part of Koshi Province recorded near-normal to above normal maximum temperature while the rest of the country recorded below normal maximum temperature in February (Figure 4.2.6).

Janakpur Airport station of Dhanusha district and Humde station of Manang district recorded the highest and lowest monthly average maximum temperature of 27.3°C and 6.5°C respectively. Similarly, the highest monthly anomaly of 3.1°C was recorded at Gaur station of Rautahat district and the lowest of -1.9°C was recorded at Dailekh station of Dailekh district. The highest daily maximum temperature of 31.5°C was recorded at Janakpur Airport station of Dhanusha district on 20th February while the lowest daily maximum

temperature of -1.5°C was recorded at Humde of Manang district on 1st February. The country averaged maximum temperature in February 2024 was lower than in 2023 (Figure 4.2.7).

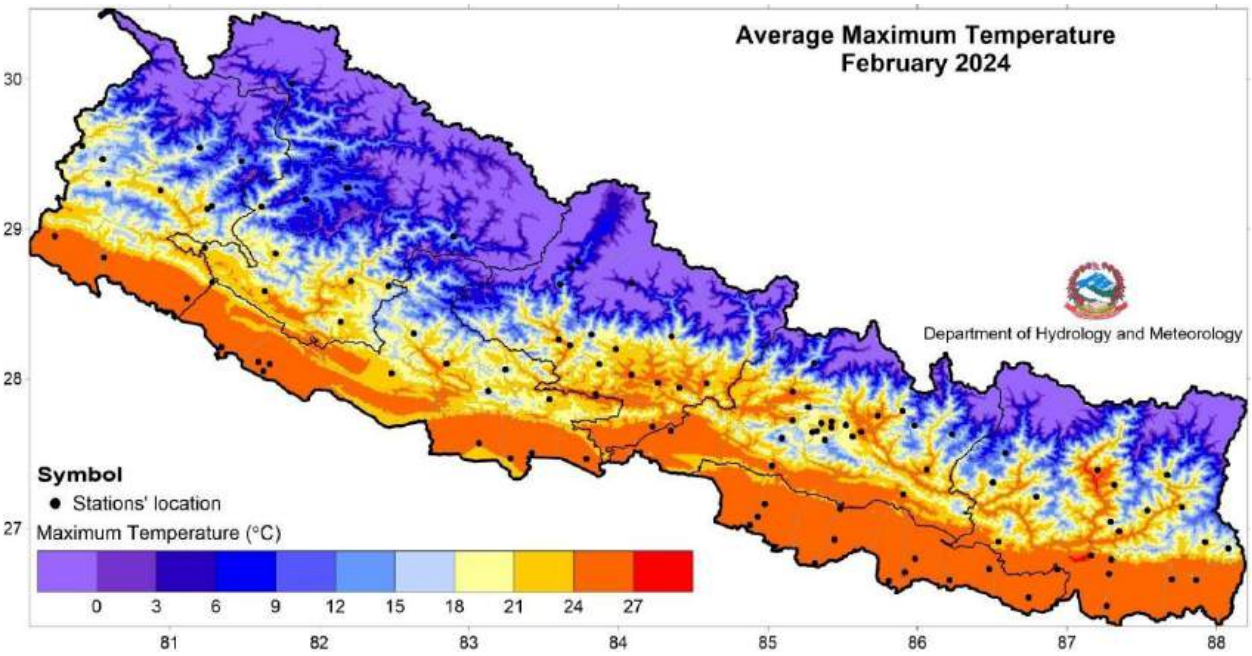

Figure 4.2.5: Maximum Temperature in February 2024.

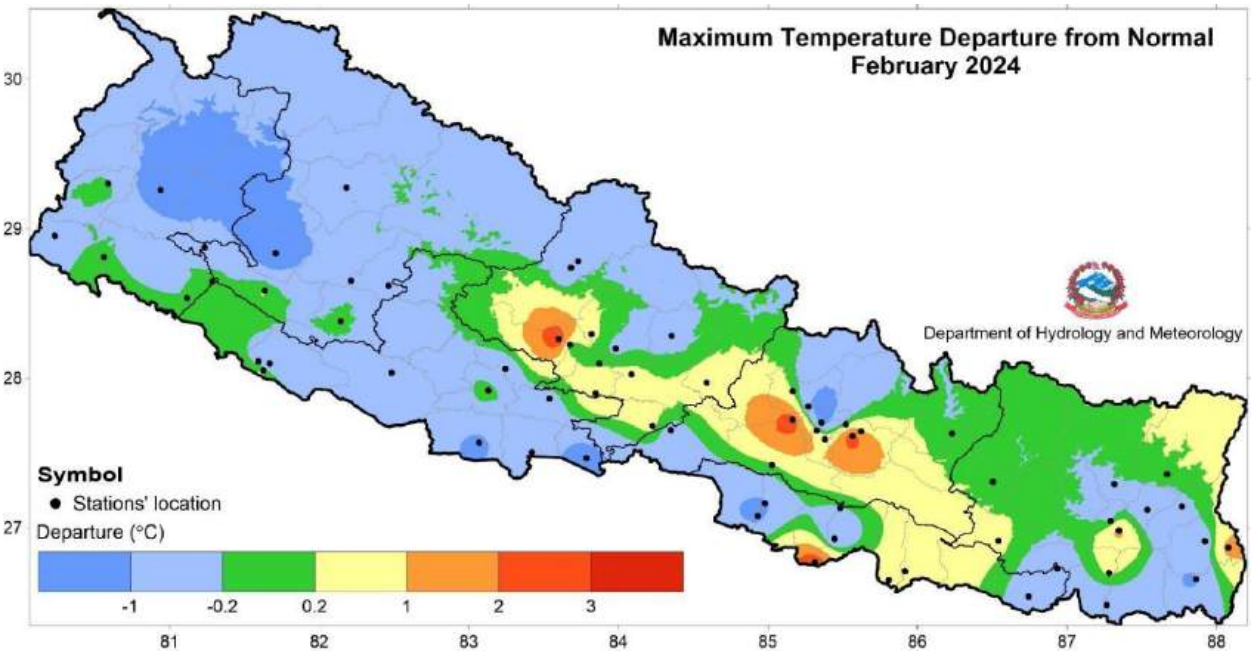

Figure 4.2.6: Departure from normal maximum temperature in February 2024.

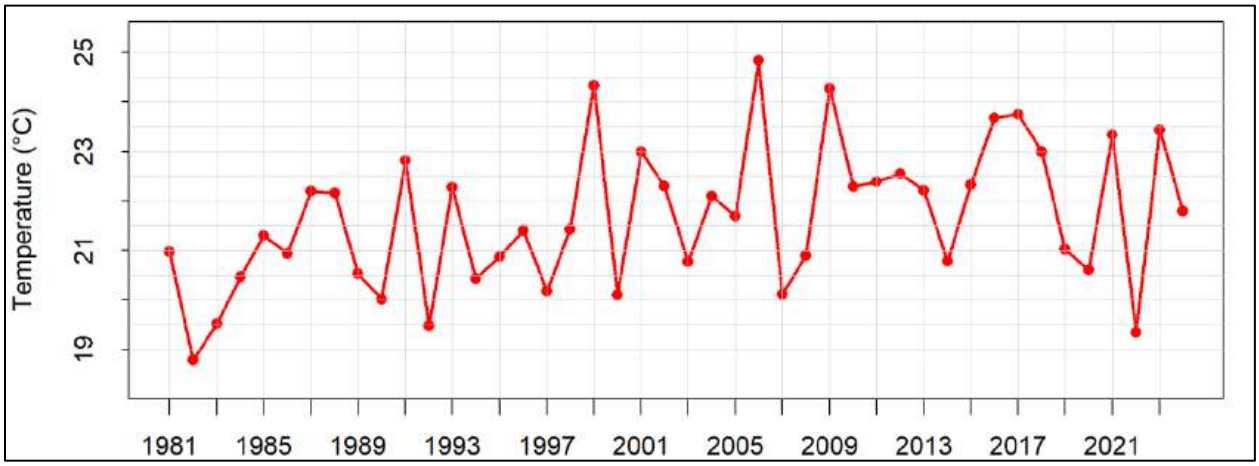

Figure 4.2.7: Interannual variability of all Nepal monthly average minimum temperature of February from 1981 to 2024 (average of 60 stations).

Minimum Temperature

Most part of the country experienced cooler minimum temperature during February. Isolated part over Lumbini Province and Koshi Province recorded above normal minimum temperature (Figure 4.2.9).

Dharan Bazar station of Sunsari district and Humde station of Manang district recorded the highest and lowest monthly average minimum temperature of 13.3°C and -6.8°C respectively. Similarly, the highest monthly anomaly of 1.9°C was recorded at Kanyam Tea Estate station of Ilam district and the lowest anomaly of -3.5°C was recorded at Pusma Camp station of Surkhet district. The highest daily minimum temperature of 18.0°C was recorded at Biratnagar Airport station of Morang district on 22nd February while the lowest daily minimum temperature of -11.0°C was recorded at Humde station of Manang district on 2nd February. The country averaged minimum temperature of February 2024 was lower than in 2023 (Figure 4.2.10).

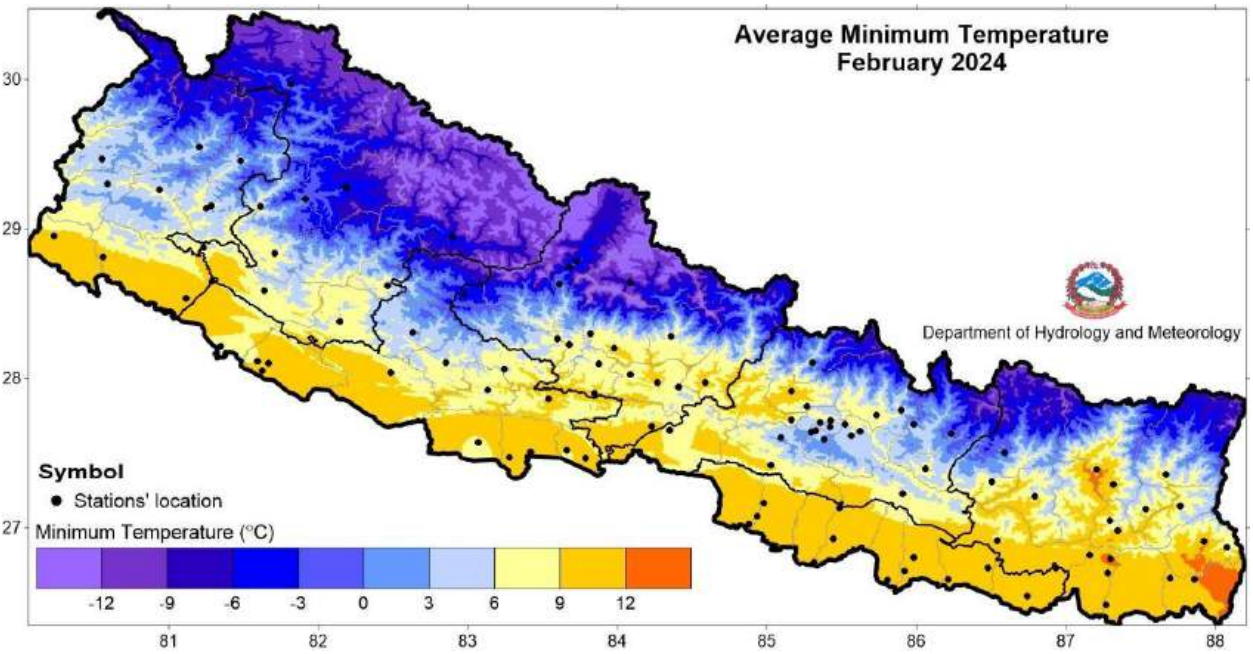

Figure 4.2.8: Minimum Temperature in February 2024.

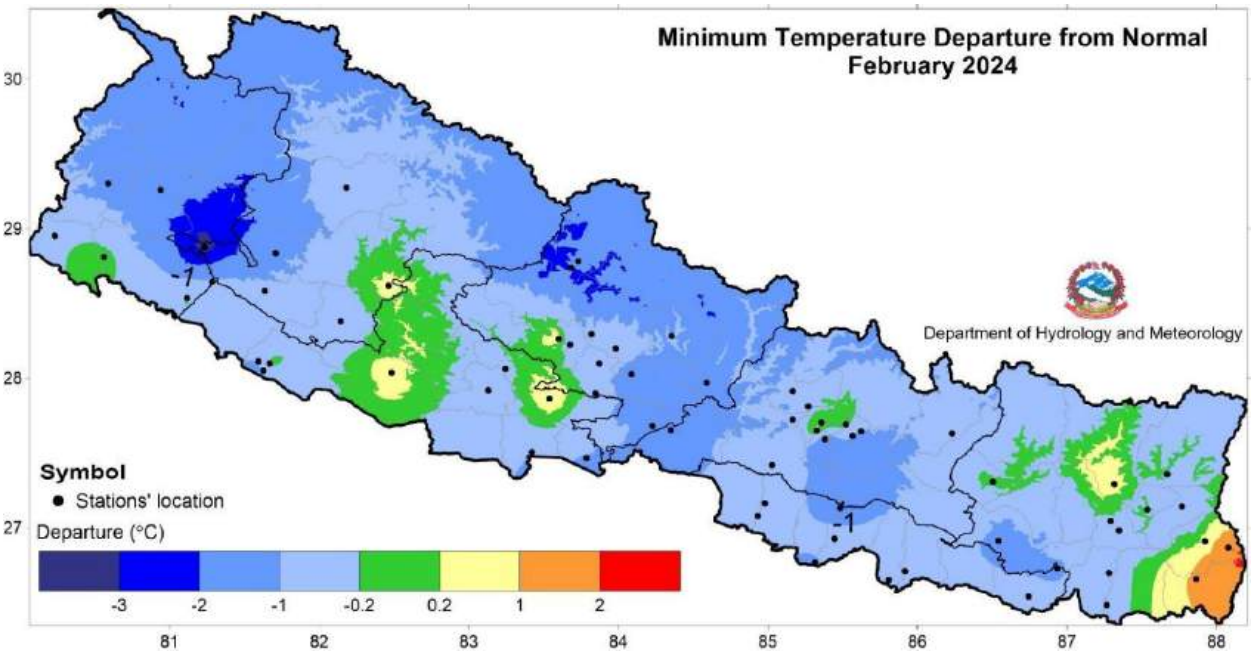

Figure 4.2.9: Departure from normal minimum temperature in February 2024.

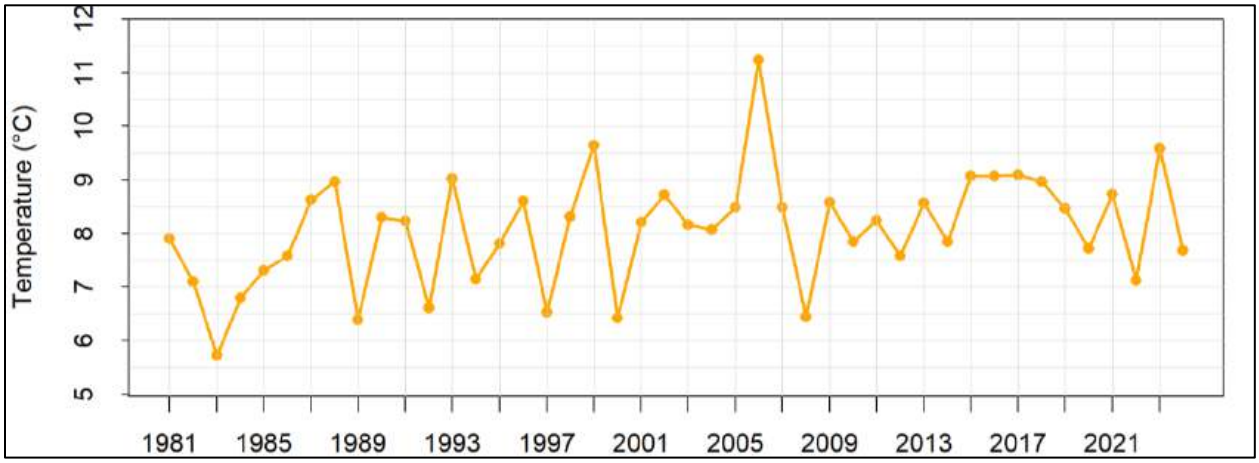

Figure 4.2.10: Interannual variability of all Nepal monthly average minimum temperature of February from 1981 to 2024 (average of 59 stations).

4.3 March

Highlights

Most parts of the country recorded above normal precipitation in March. Precipitation over the country as a whole was 167.5% of the normal. The country experienced cooler maximum temperatures across most part.

Synoptic Sequence

A number of western disturbances as cyclonic circulation and trough along with local disturbances affected weather of Nepal.

Precipitation

Eastern part of Koshi Province and Gandaki province recorded precipitation greater than 75 mm in March, while Lumbini province recorded precipitation less than 25 mm (Figure 4.3.1). Northern part of Bagamati Province, eastern part of Lumbini Province, western part of Gandaki Province, northern part of Karnali and

Sudurpaschim Province recorded below normal precipitation, while the rest of the country recorded normal to above normal precipitation in March (Figure 4.3.2). Khaireni Tar station of Tanahun district recorded the highest monthly total precipitation of 170.0 mm while Jomsom of Mustang district recorded the lowest monthly total precipitation of 4.7 mm. The highest (581.9%) and lowest (15.6%) percentage of monthly normal precipitation was recorded in Jaleshwor station of Mahottari district and Jomsom station of Mustang district respectively. Based on the average of 98 stations (stations with monthly normal precipitation data), Nepal received 167.5% of the normal precipitation.

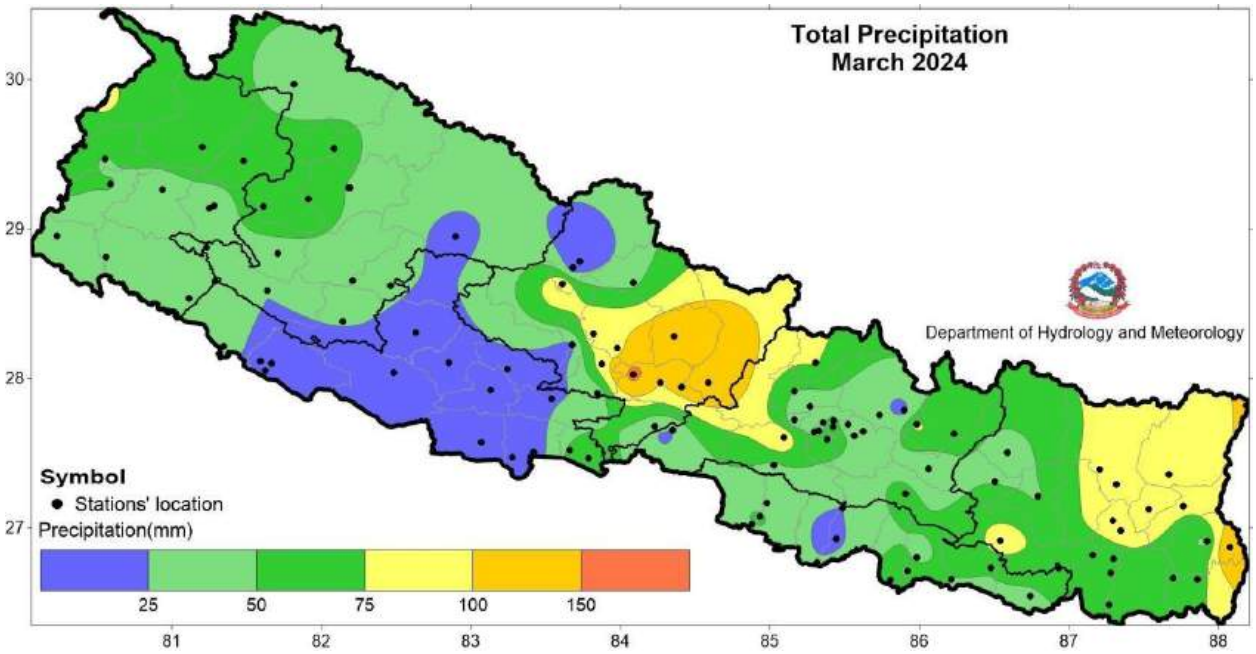

Figure 4.3.1: Total precipitation in March 2024.

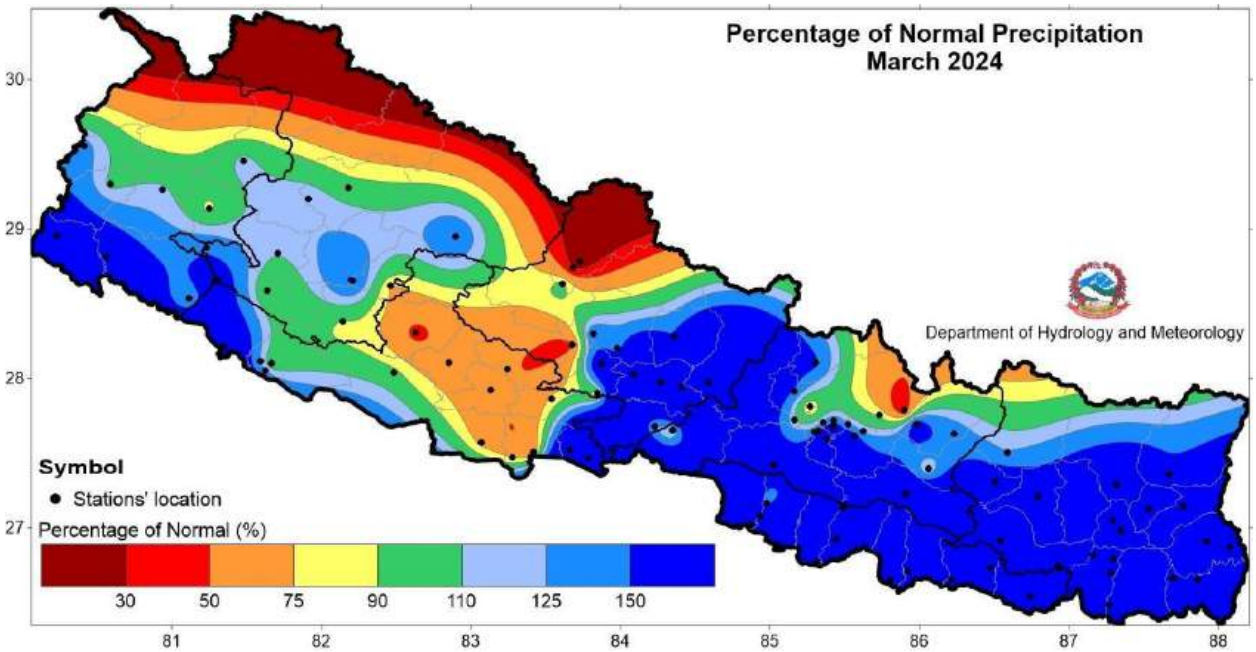

Figure 4.3.2: Percentage of normal precipitation in March 2024.

The temporal distribution of all Nepal average daily cumulative of daily precipitation shows that precipitation was above normal during the first week and fourth week of March while the second and third week remained dry January (Figure 4.3.3). The country averaged total precipitation of March 2024 was the highest since 2021 (Figure 4.3.4).

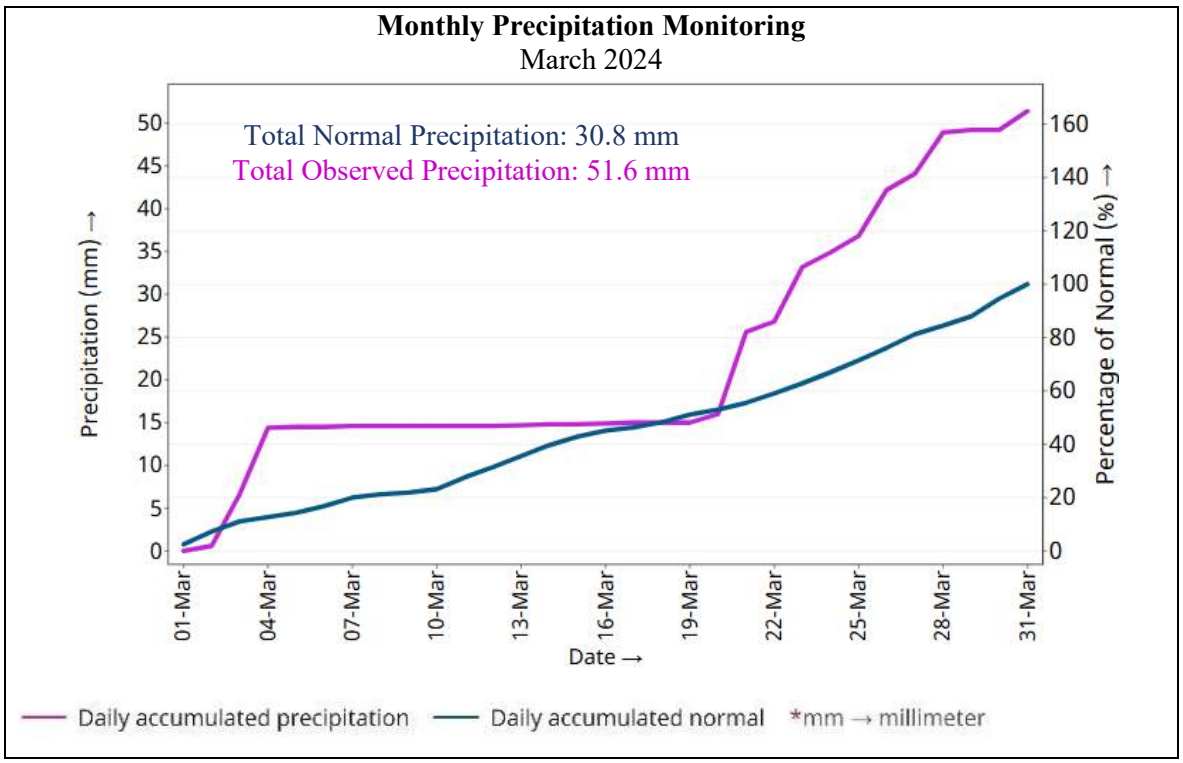

Figure 4.3.3: Cumulative all Nepal daily normal and observed precipitation during March 2024.

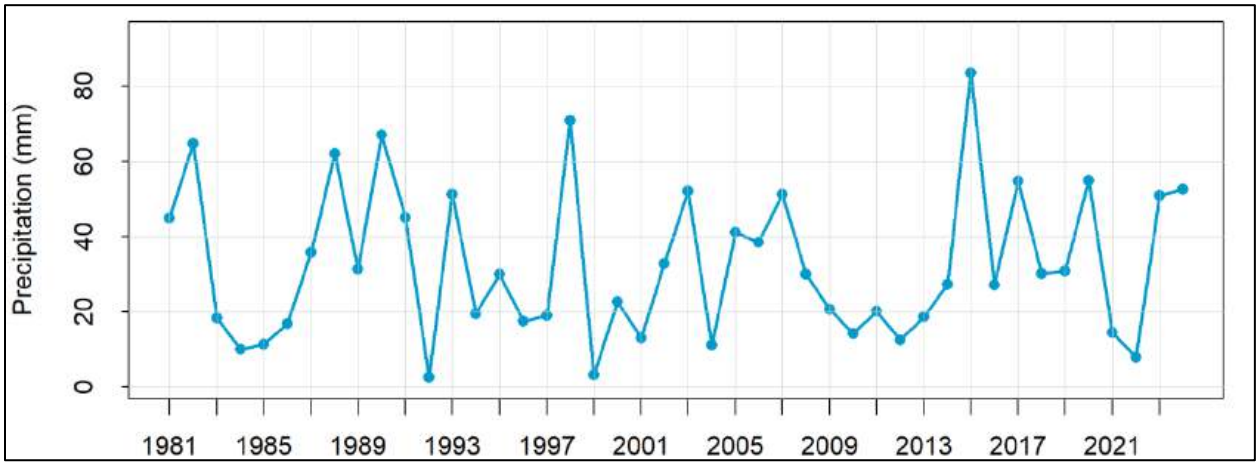

Figure 4.3.4: Interannual variability of all Nepal monthly total precipitation of March from 1981 to 2024 (average of 95 stations).

Maximum Temperature

Southwestern part of Gandaki Province, central and northern part of Karnali Province, western part of Sudurpaschim Province and isolated part of remaining provinces observed above normal maximum temperature in March while the rest of the country recorded below normal maximum temperature (Figure 4.3.6).

Gaur station of Rautahat district and Humde station of Manang district recorded the highest and lowest monthly average maximum temperature of 32.1°C and 10.4°C respectively. Similarly, the highest monthly anomaly of 4.0°C was recorded at Gaur station of Rautahat district and the lowest of -2.7°C was recorded at Khudi Bazar station of Lamjung district. The highest daily maximum temperature of 38.6°C was recorded at Bhairahawa Airport station of Rupandehi district on 31st March while the lowest daily maximum

temperature of 1.9°C was recorded at Humde of Manang district on 3rd March. The country averaged total precipitation of March 2024 was the lowest since 2021 (Figure 4.3.7).

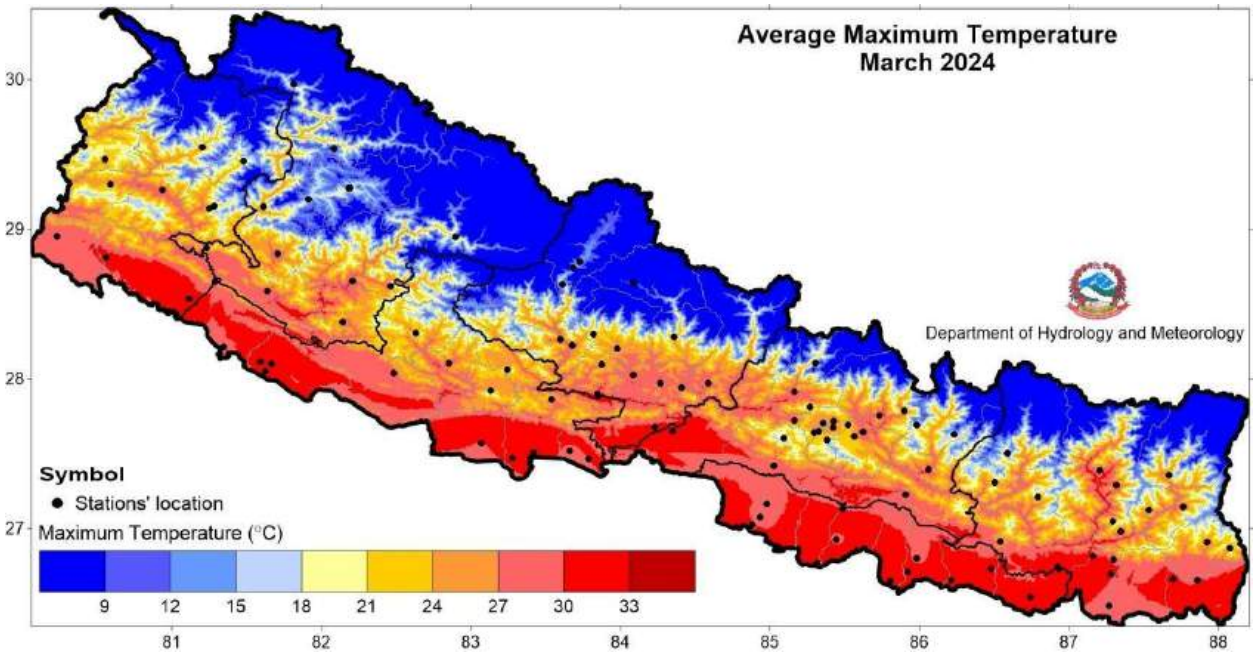

Figure 4.3.5: Maximum Temperature in March 2024.

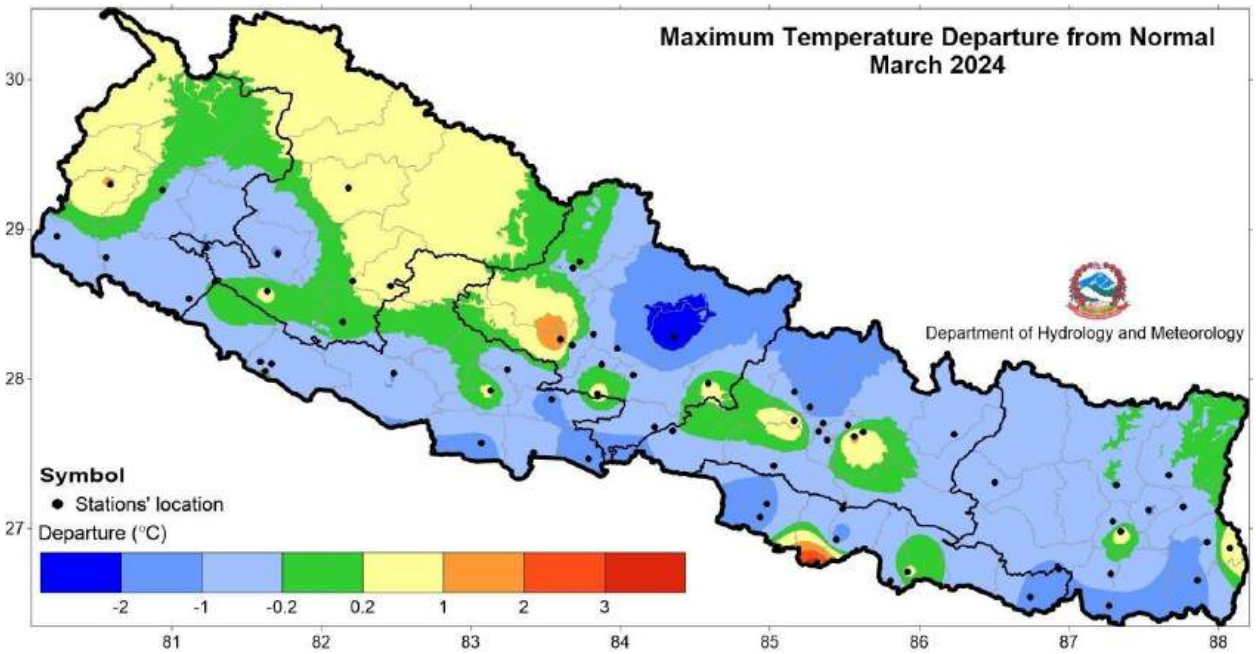

Figure 4.3.6: Departure from normal maximum temperature in March 2024.

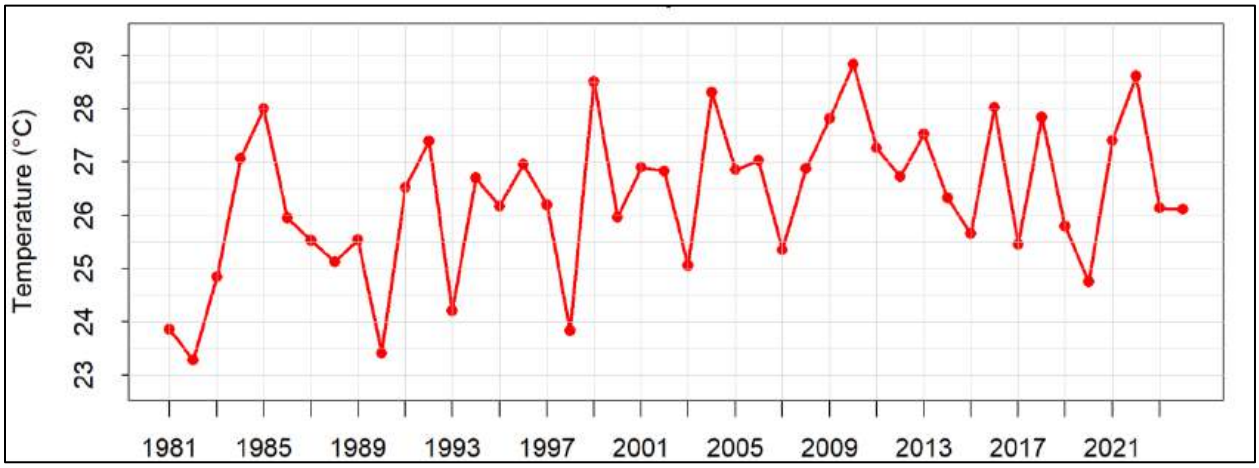

Figure 4.3.7: Interannual variability of all Nepal monthly average minimum temperature of March from 1981 to 2024 (average of 60 stations).

Minimum Temperature

In March, increased minimum temperature was observed over several parts of Terai and valleys (Figure 4.3.9). Dharan Bazar station of Sunsari district and Humde station of Manang district recorded the highest and lowest monthly average minimum temperature of 17.8°C and -2.7°C respectively. Similarly, the highest monthly anomaly of 2.3°C was recorded at Kanyam Tea Estate station of Ilam district and the lowest anomaly of -2.7°C was recorded at Pusma Camp station of Surkhet district. The highest daily minimum temperature of 23.5°C was recorded at Dharan Bazar station of Sunsari district on 31st March while the lowest daily minimum temperature of -9.0°C was recorded at Humde station of Manang district on 4th March. The country averaged minimum temperature of March 2024 was the lowest since 2021 (Figure 4.3.10).

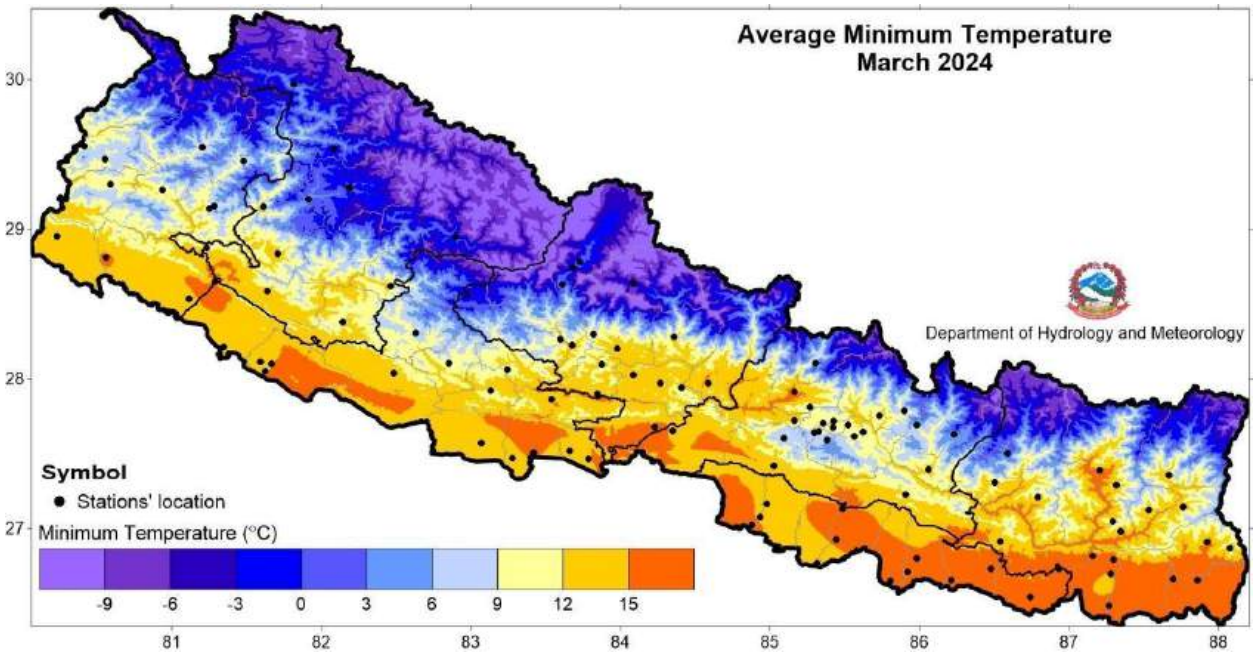

Figure 4.3.8: Minimum Temperature in March 2024.

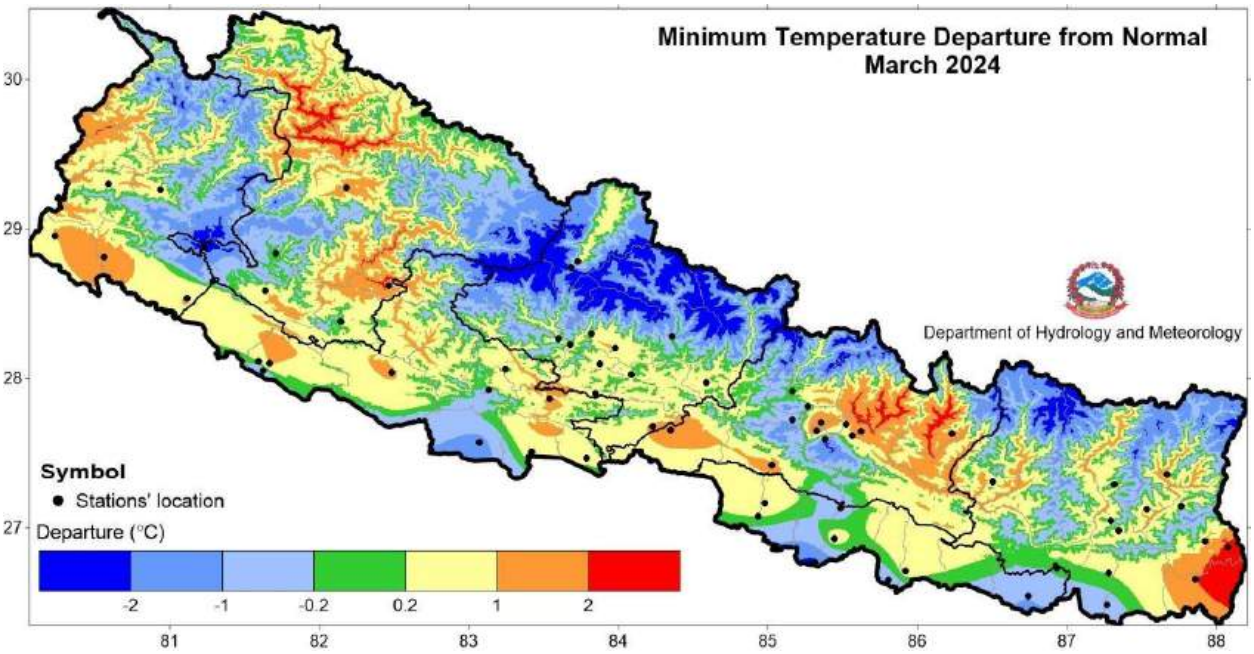

Figure 4.3.9: Departure from normal minimum temperature in March 2024.

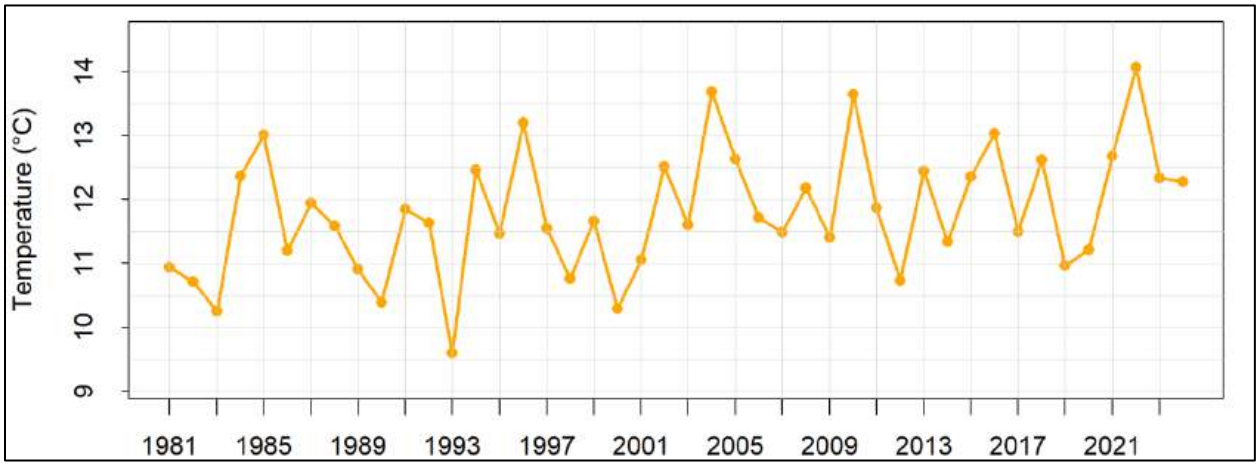

Figure 4.3.10: Interannual variability of all Nepal monthly average minimum temperature of March from 1981 to 2024 (average of 59 stations).

4.4 April

Highlights

Most parts of the country recorded below normal precipitation in April. Precipitation over the country as a whole was 19.4% of the normal. Maximum temperature was above normal throughout the country while minimum temperature was above normal in most parts of the central and northern region.

Synoptic Sequence

A number of western disturbances along with local disturbances affected the weather of Nepal.

Precipitation

Most parts of the country recorded below normal precipitation while an isolated part of Gandaki Province recorded normal precipitation (Figure 4.4.2). North-eastern part of Koshi province recorded precipitation greater than 50 mm, while Lumbini Province and Madhesh Province as well as the southern part of the Bagamati Province, Karnali Province and Sudurpaschim Province recorded precipitation less than 5 mm (Figure 4.4.1). Taplejung station of Taplejung district recorded the highest monthly total precipitation of

75.9 mm. The highest (115.5%) percentage of monthly normal precipitation was recorded in Jomsom station of Manang district. Based on the average of 100 stations (stations with normal precipitation data), Nepal received 18.6% of the normal precipitation.

The temporal distribution of all Nepal average daily cumulative of daily precipitation shows that precipitation remained below normal during the month of April (Figure 4.4.3). The country averaged total precipitation of April 2024 was the lowest since 1990 (Figure 4.4.4).

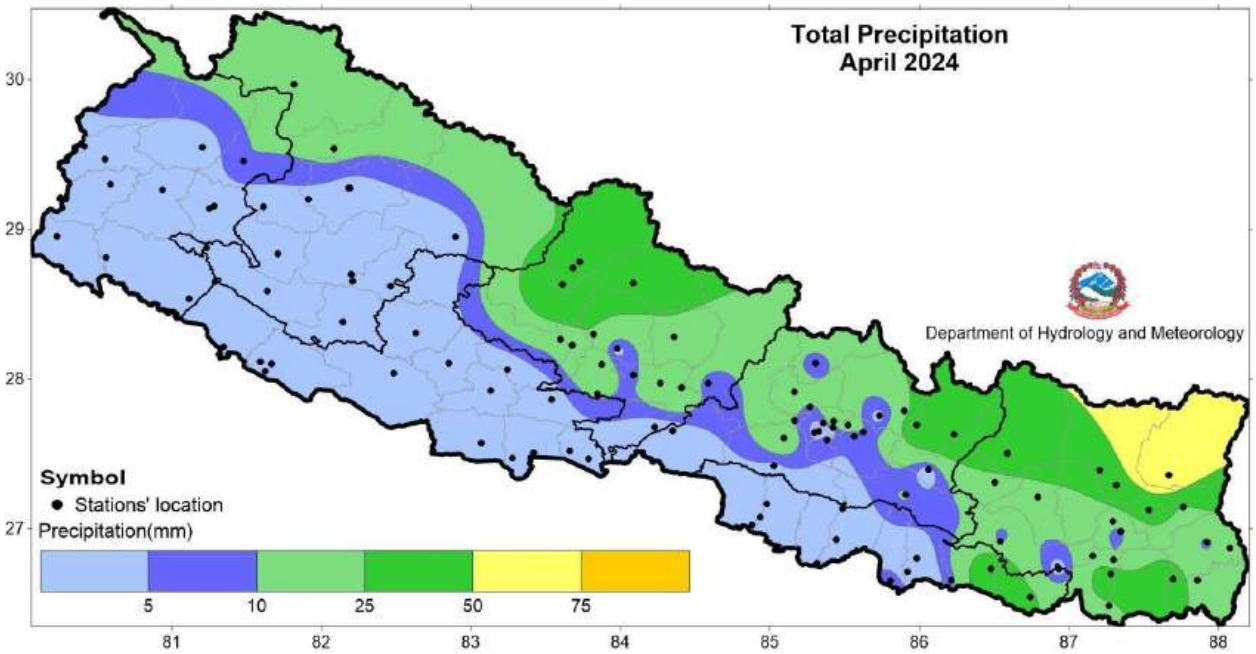

Figure 4.4.1: Total precipitation in April 2024.

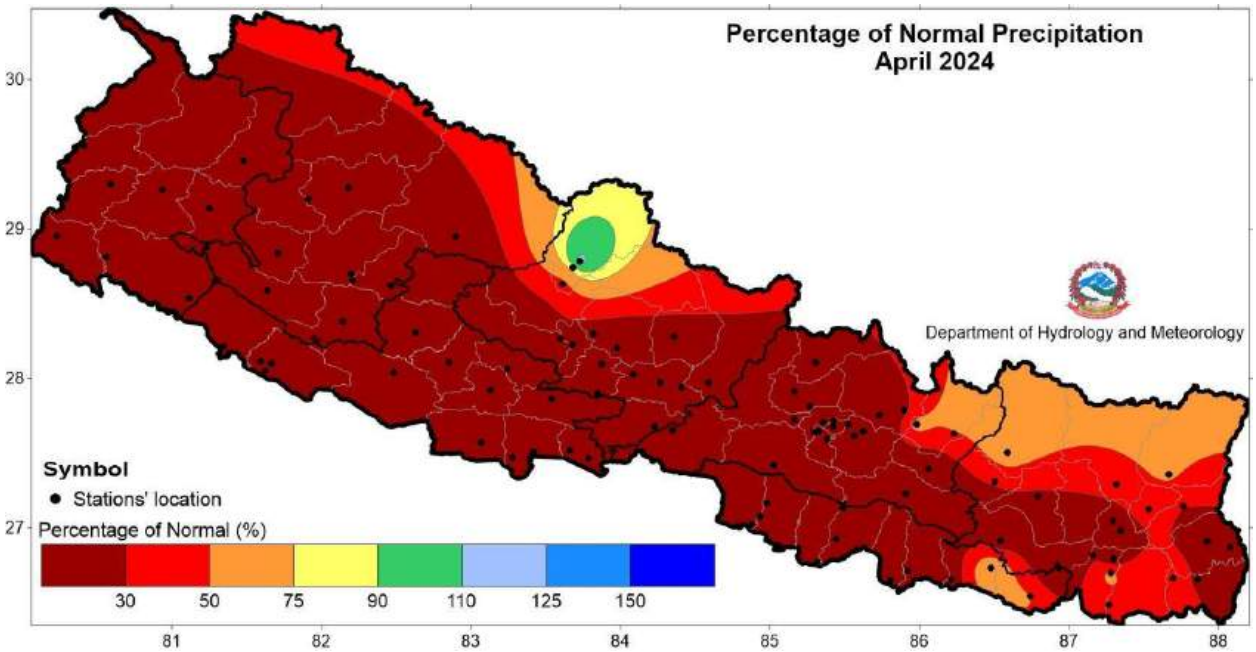

Figure 4.4.2: Percentage of normal precipitation in April 2024.

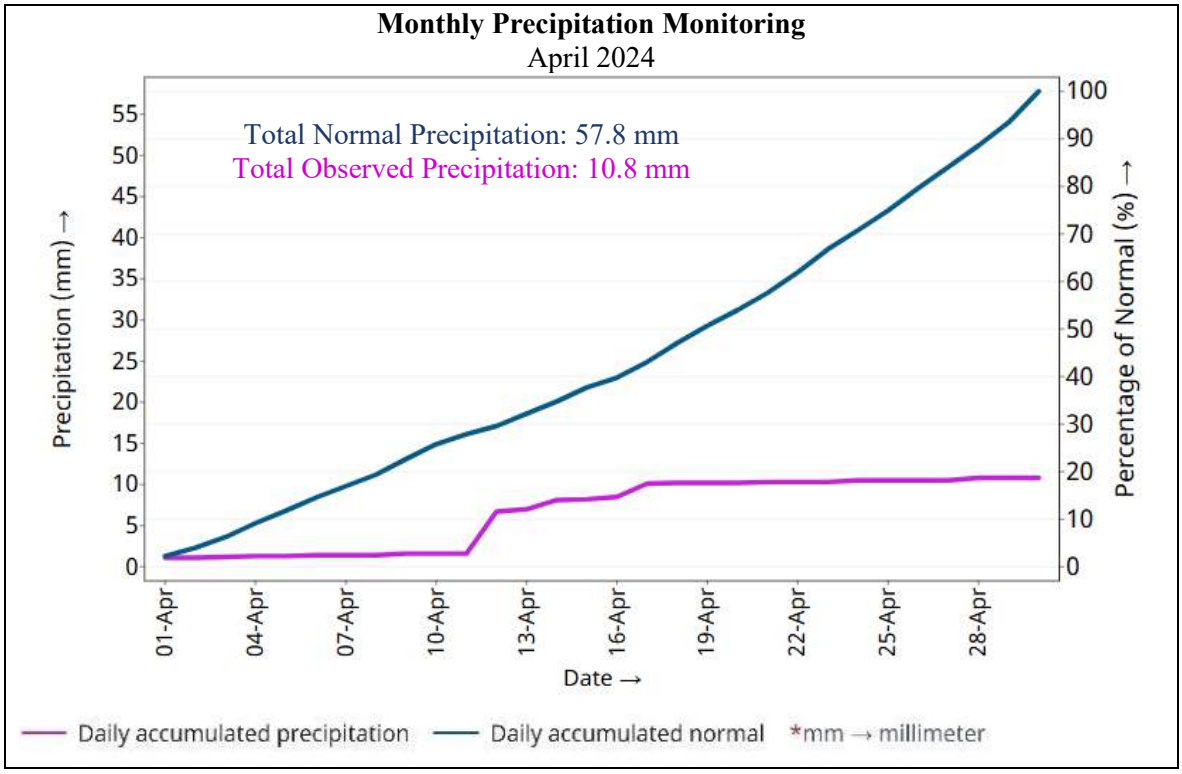

Figure 4.4.3: Cumulative all Nepal daily normal and observed precipitation during April 2024.

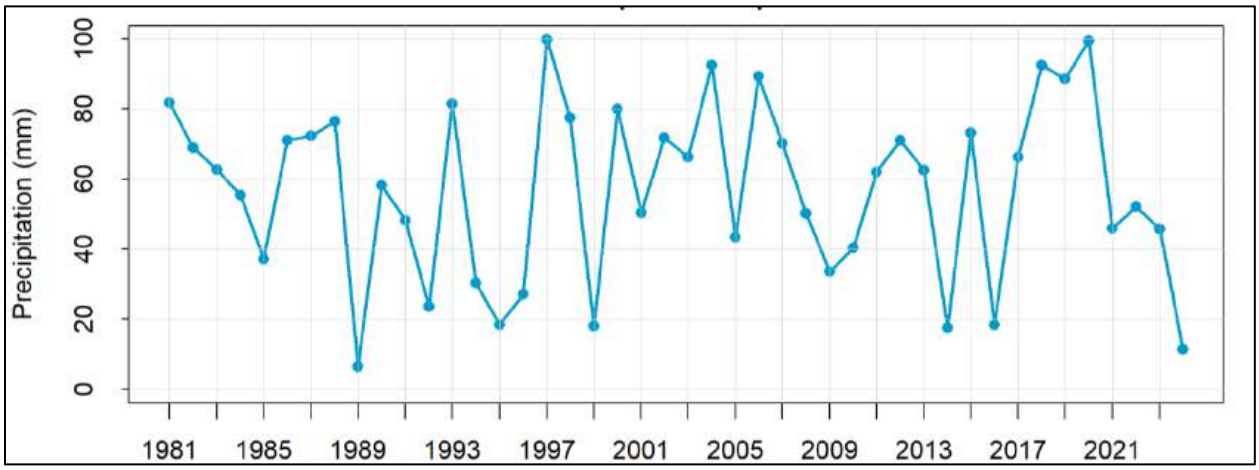

Figure 4.4.4: Interannual variability of all Nepal monthly total precipitation of April from 1981 to 2024 (average of 96 stations).

Maximum Temperature

Above normal maximum temperature was observed throughout the country (Figure 4.4.6). Bhairahawa Airport station of Rupandehi district and Humde station of Manang district recorded the highest and lowest monthly average maximum temperature of 39.9°C and 14.6°C respectively. Similarly, the highest monthly anomaly of 4.8°C was recorded at Gaur station of Rautahat district and the lowest of 0.7°C was recorded at Thakmarpha station of Mustang district. The highest daily maximum temperature of 43.6°C was recorded at Bhairahawa Airport station of Rupandehi district on 20th April while the lowest daily maximum temperature of 10.5°C was recorded at Humde station of Manang district on 5th April. The country averaged maximum temperature of April 2024 was the highest since 2017 (Figure 4.4.7).

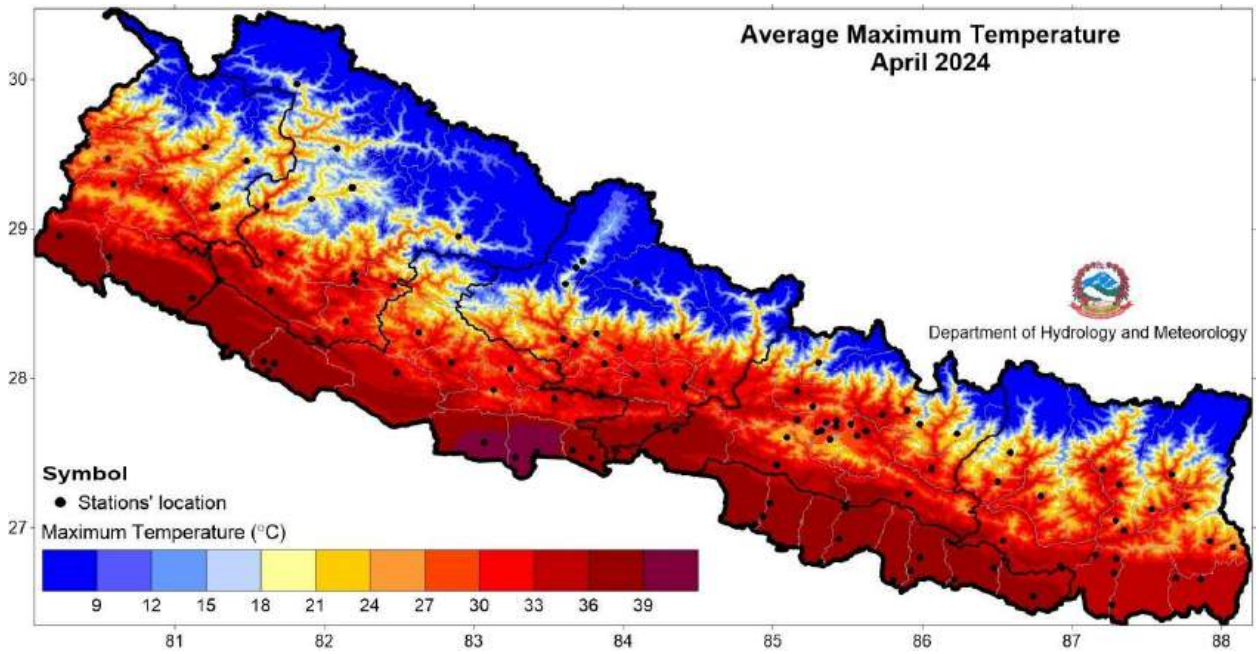

Figure 4.4.5: Maximum Temperature in April 2024.

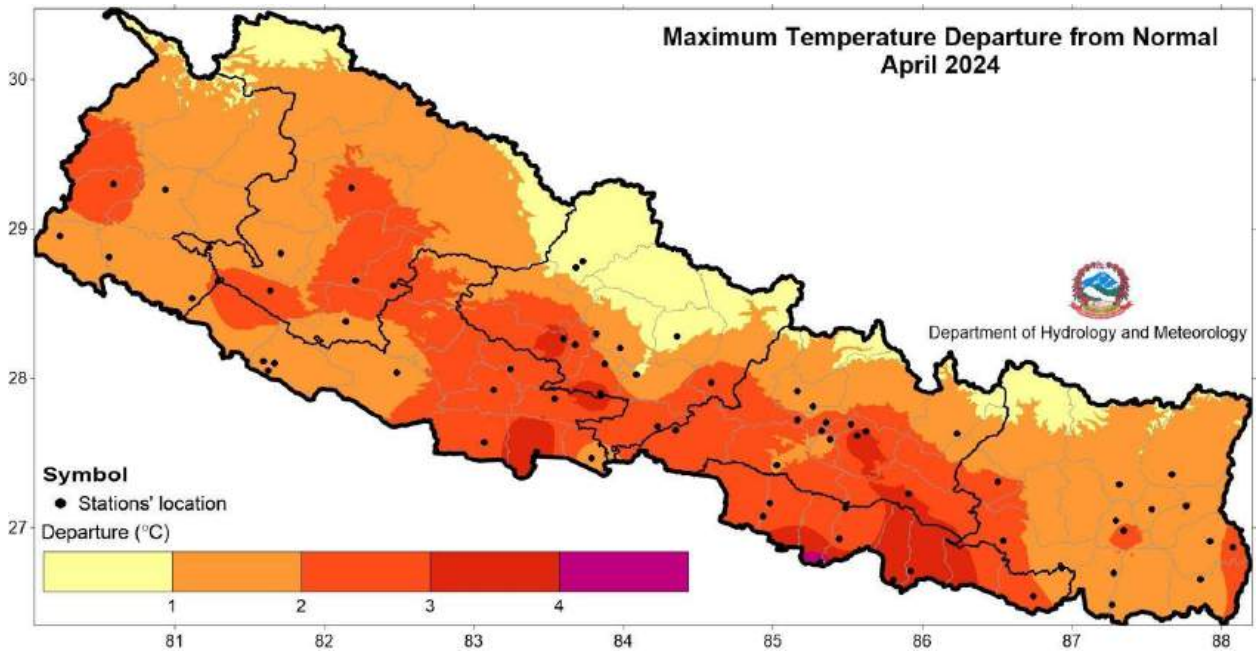

Figure 4.4.6: Departure from normal maximum temperature in April 2024.

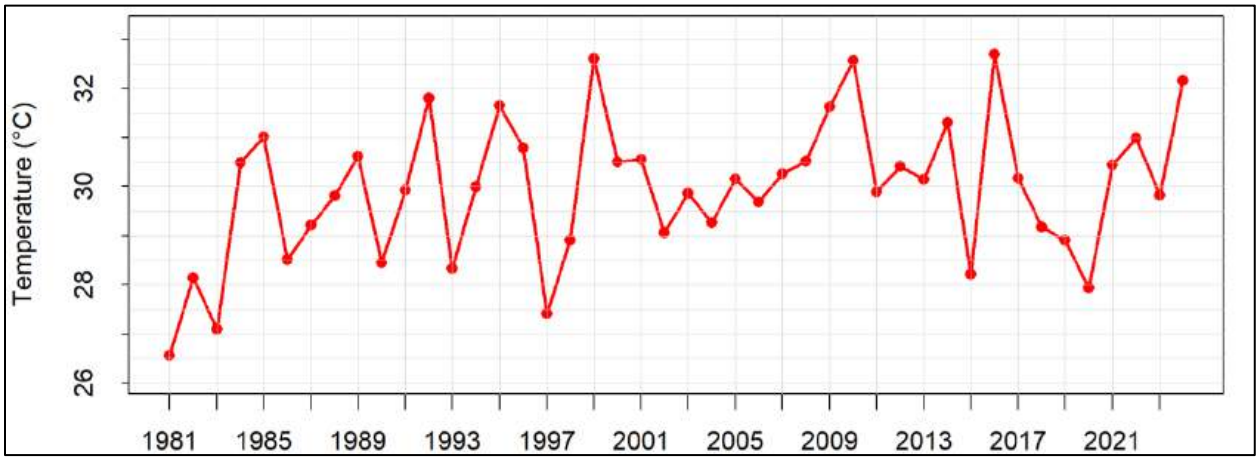

Figure 4.4.7: Interannual variability of all Nepal monthly average minimum temperature of April from 1981 to 2024 (average of 62 stations).

Minimum Temperature

Madhesh Province and the south-eastern part of Bagamati Province, Lumbini Province and Sudurpaschim Province observed below normal minimum temperature while rest of the country observed above normal minimum temperature (Figure 4.4.9).

Chisapani (Karnali) station of Kailali district and Humde station of Manang district recorded the highest and lowest monthly average minimum temperature of 22.7°C and 0.0°C respectively. Similarly, the highest monthly anomaly of 3.4°C was recorded at Tansen station of Palpa district and the lowest anomaly of –4.8°C was recorded at Gaur station of Rautahat district. The highest daily minimum temperature of 26.3°C was recorded at Rajbiraj station on 8th April while the lowest daily minimum temperature of -4.7°C was recorded at Humde station of Manang district on 9th April. The country averaged minimum temperature of April 2024 was higher than in 2023 (Figure 4.4.10).

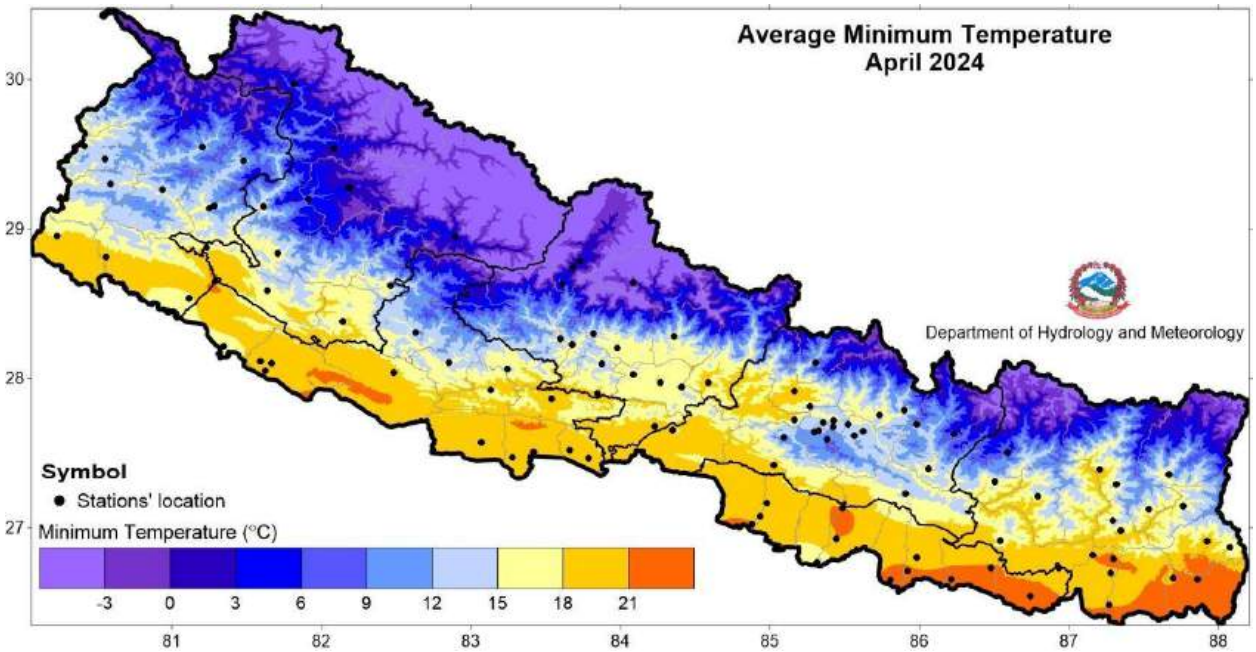

Figure 4.4.8: Minimum Temperature in April 2024.

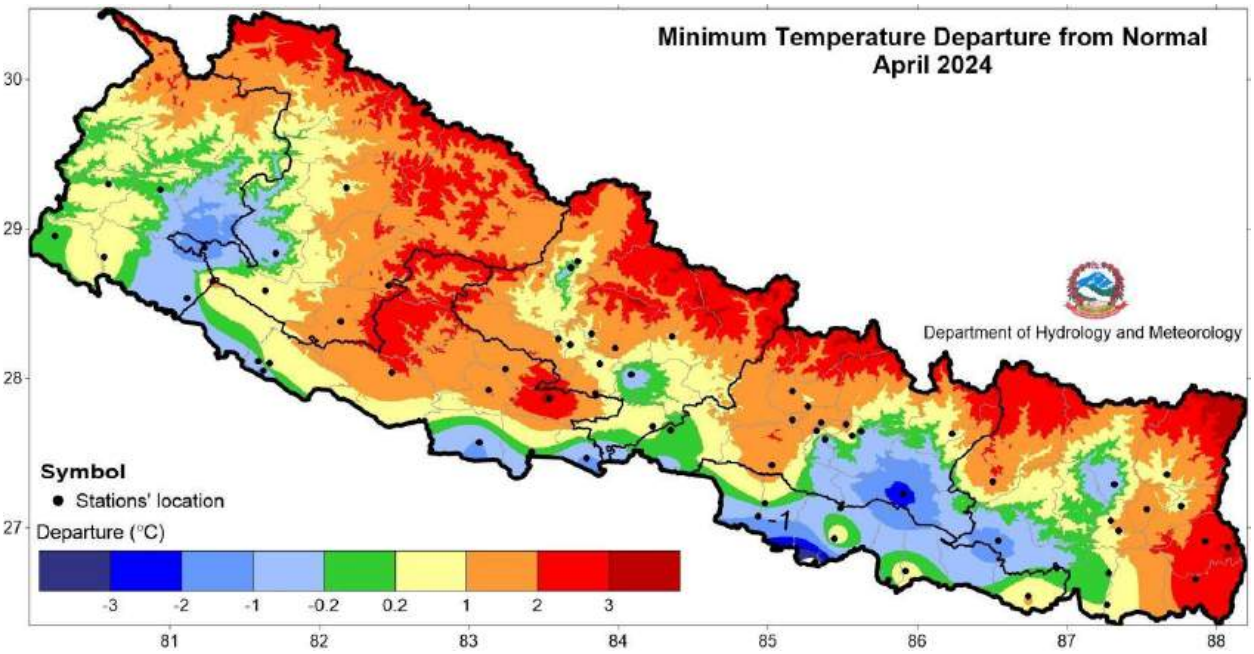

Figure 4.4.9: Departure from normal minimum temperature in April 2024.

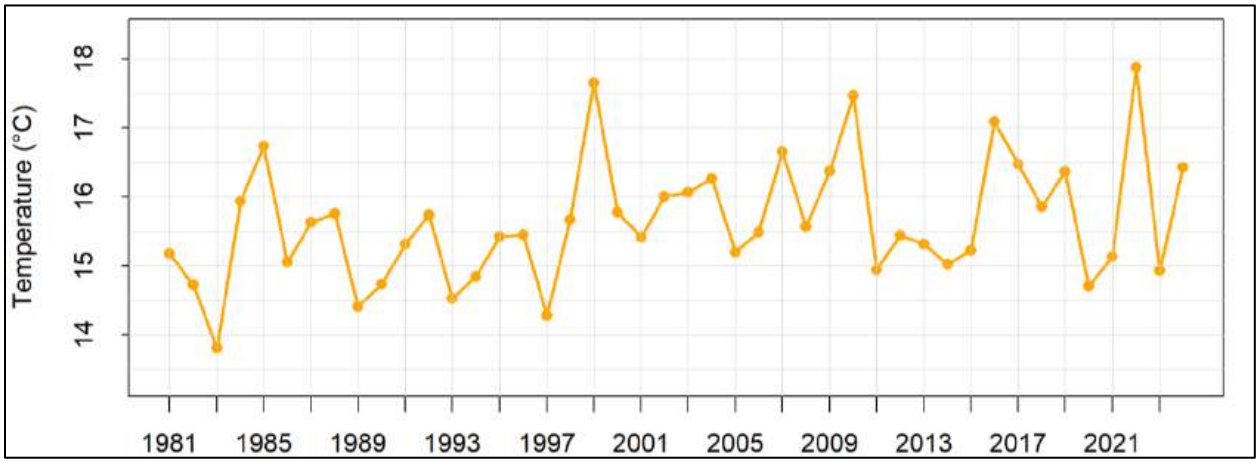

Figure 4.4.10: Interannual variability of all Nepal monthly average minimum temperature of April from 1981 to 2024 (average of 59 stations).

4.5 May

Highlights

Precipitation over the country as a whole was 87.9% of the normal indicating below normal precipitation. Maximum and minimum temperature were above normal over most parts of the country. Changunarayan, Chautara, Patan (Baitadi) and Tikapur station made the new record of highest maximum temperature.

Synoptic Sequence

A number of western disturbances along with local disturbances affected the weather of Nepal. In the fourth week of May, a severe cyclonic storm "Remal" over east-central Bay of Bengal affected the weather of the eastern part of the country.

Precipitation

Southern part of Koshi Province, central part of Gandaki Province and some part of Bagamati Province recorded precipitation greater than 200 mm (Figure 4.5.1). Central part of Koshi Province and Madhesh

Province, western part of Bagamati Province, eastern part of Gandaki Province, western part of Karnali Province and southern part of Sudurpaschim Province recorded below normal precipitation while remaining part of the country recorded near-normal to above normal precipitation (Figure 4.5.2).

Syangja station of Syangja district recorded the highest monthly total precipitation of 336.4 mm and Gulariya station of Bardiya district recorded the lowest monthly total precipitation of 13.3 mm. Similarly, Chisapani (Karnali) station of Kailali district and Dhangadhi (Attariya) station of Kailali district recorded the highest (219.6%) and lowest (22.1%) percentage of monthly normal precipitation respectively. Based on the average of 99 stations (stations with normal precipitation data), Nepal received 87.9 % of the normal precipitation.

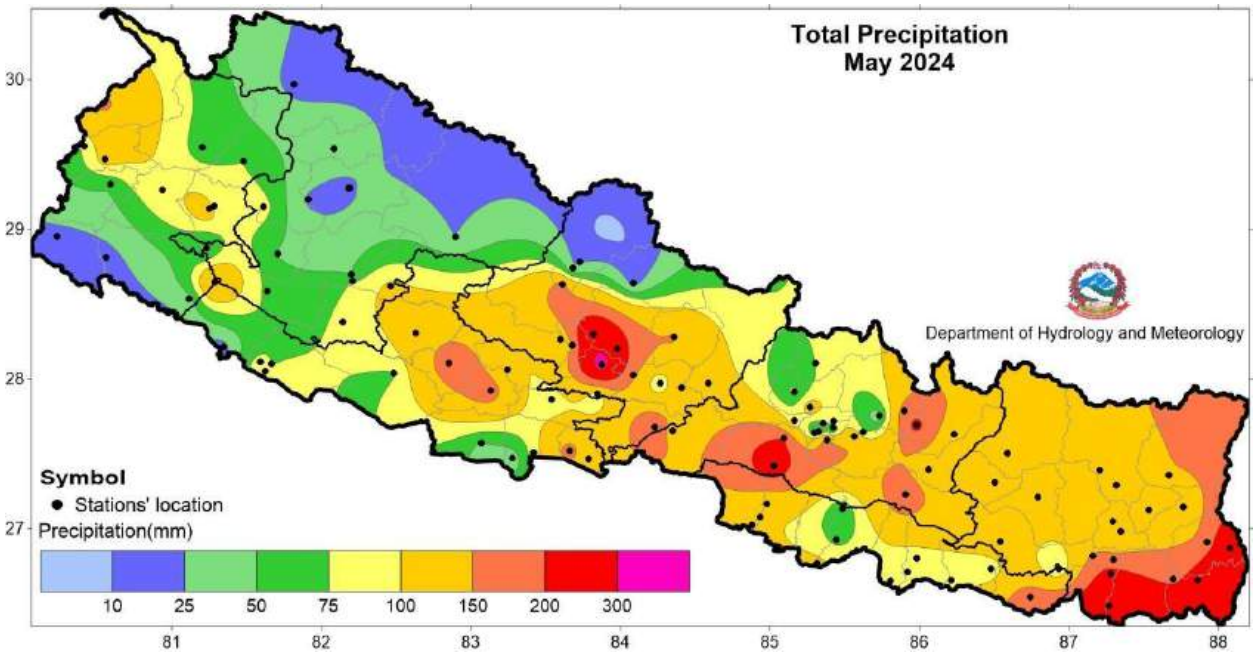

Figure 4.5.1: Total precipitation in May 2024.

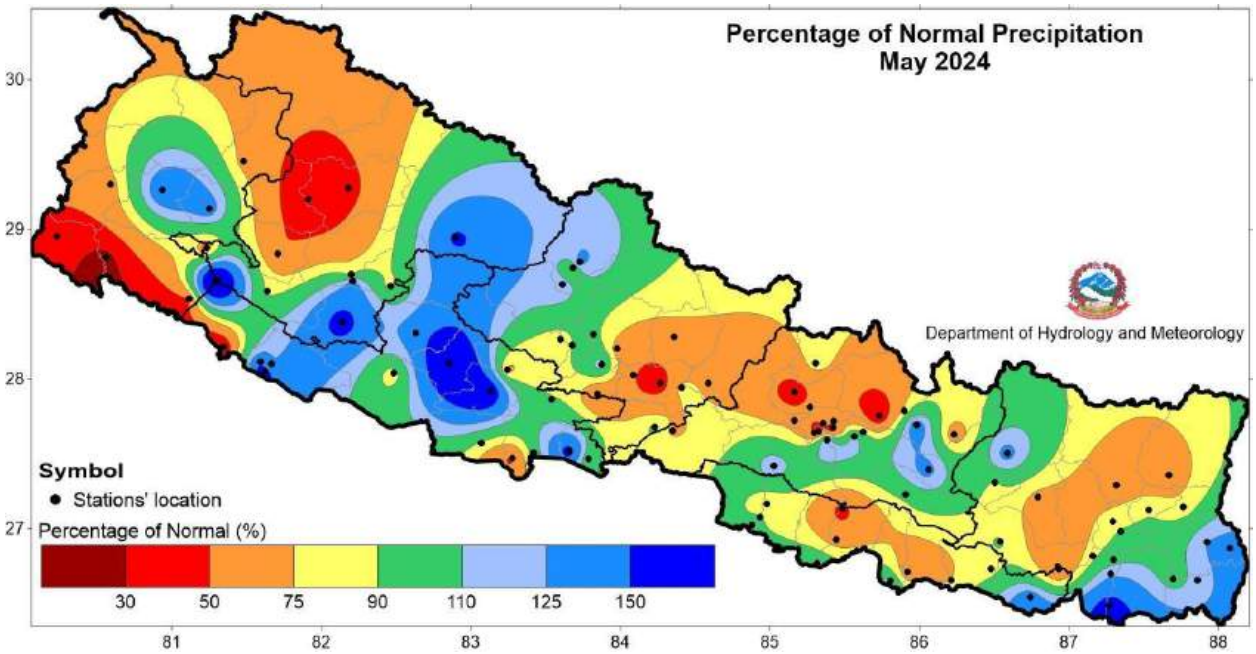

Figure 4.5.2: Percentage of normal precipitation in May 2024.

The temporal distribution of all Nepal average daily cumulative of daily precipitation shows that precipitation remained near-normal by the end of the second week, but below normal for the remaining of the period (Figure 4.5.3). The country averaged total precipitation of May 2024 was higher than in 2023 (Figure 4.5.4).

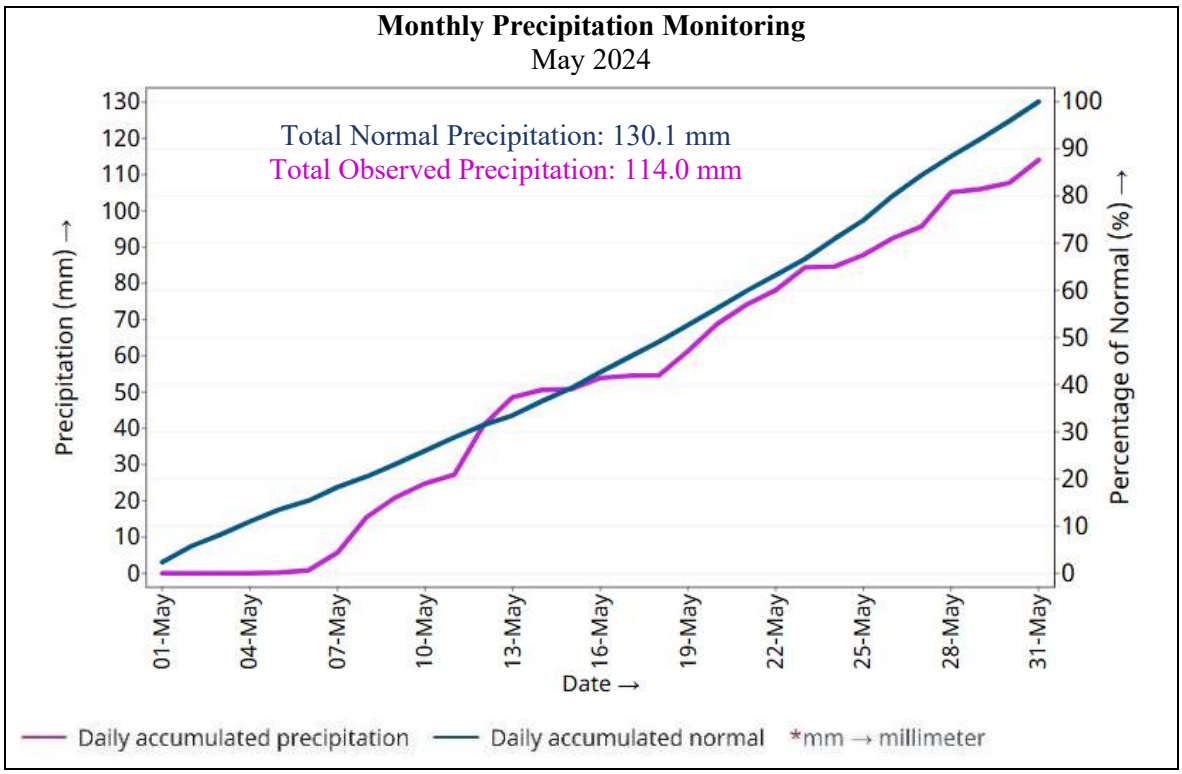

Figure 4.5.3: Cumulative all Nepal daily normal and observed precipitation during May 2024.

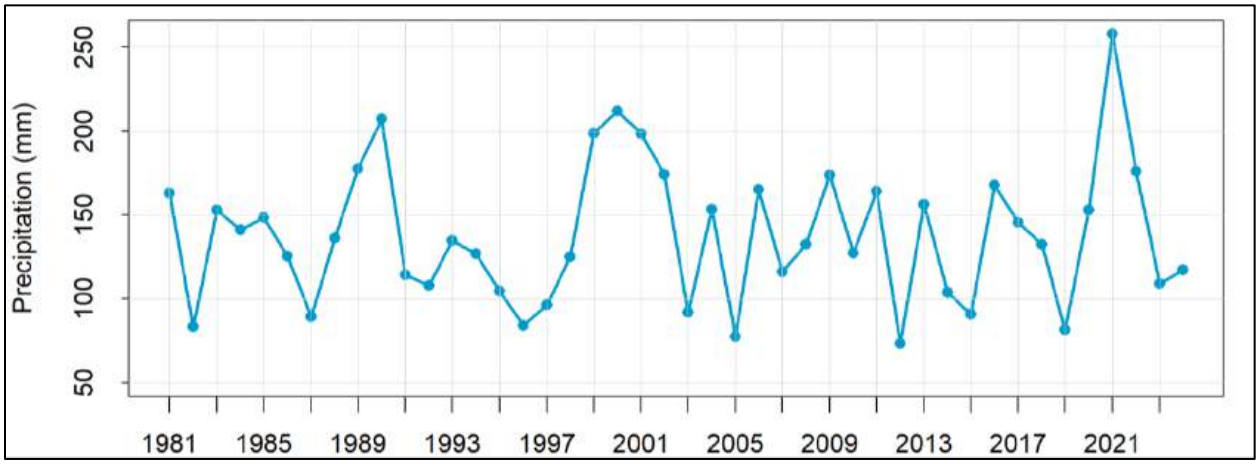

Figure 4.5.4: Interannual variability of all Nepal monthly total precipitation of May from 1981 to 2024 (average of 96 stations).

Maximum Temperature

Western and central Terai recorded higher maximum temperature in comparison to eastern Terai (Figure 4.5.5). Above normal maximum temperature was observed in most parts of the country (Figure 4.5.6). Tikapur station of Kailali district and Humde station of Manang district recorded the highest and lowest monthly average maximum temperature of 39.4°C and 17.3°C respectively. Similarly, the highest monthly

anomaly of 3.0°C was recorded at Baglung station of Baglung district and the lowest of -1.1°C was recorded at Semari station of Nawalparasi West district. The highest daily maximum temperature of 45.2°C was recorded at Tikapur station of Kailali district on 30th May while the lowest daily maximum temperature of 11.0°C was recorded at Humde station of Manang district on 8th May. The country averaged maximum temperature of May 2024 was the highest since 2020 (Figure 4.5.7).

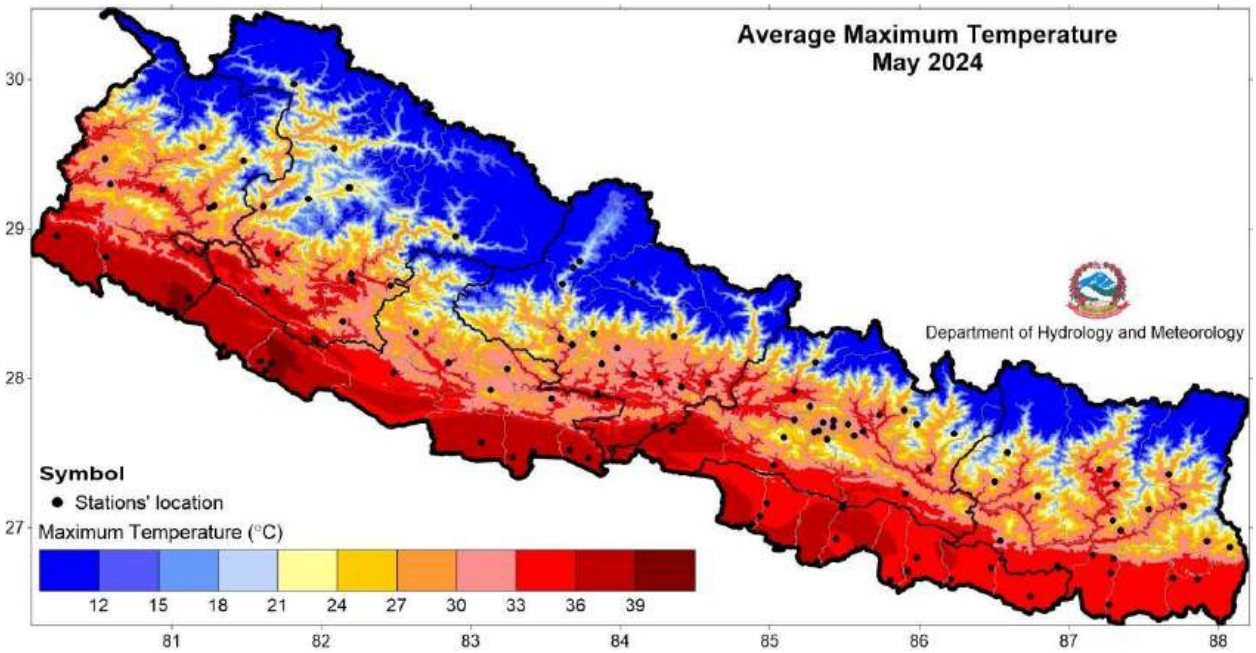

Figure 4.5.5: Maximum Temperature in May 2024.

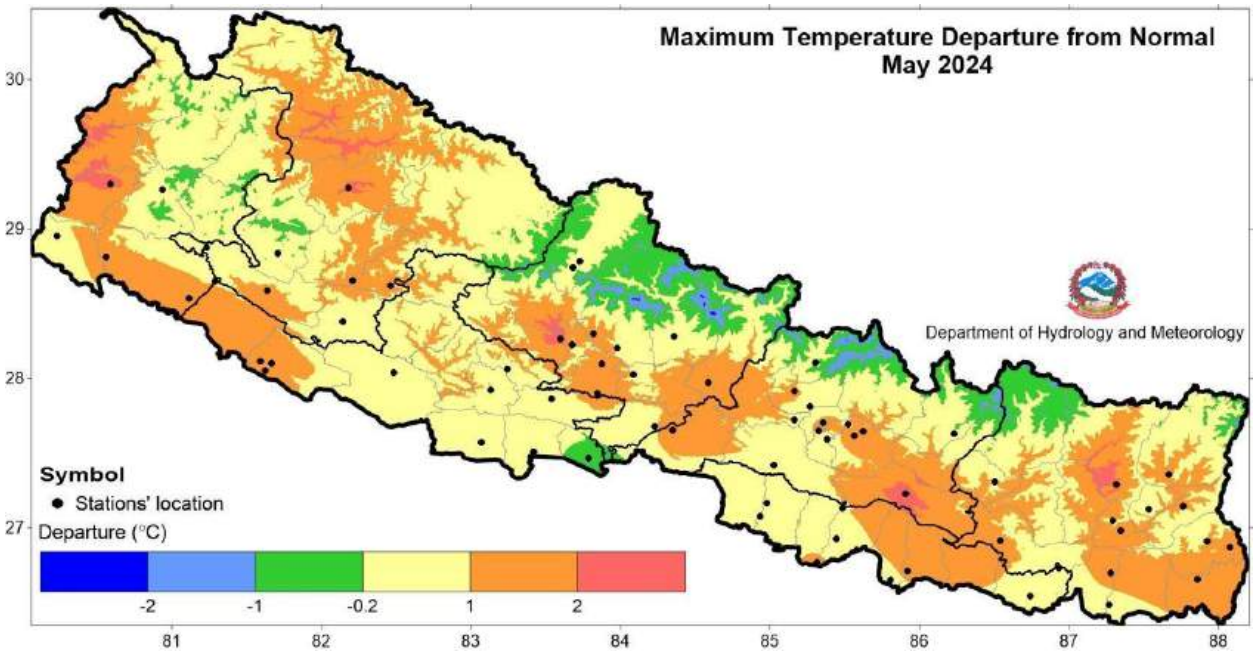

Figure 4.5.6: Departure from normal maximum temperature in May 2024.

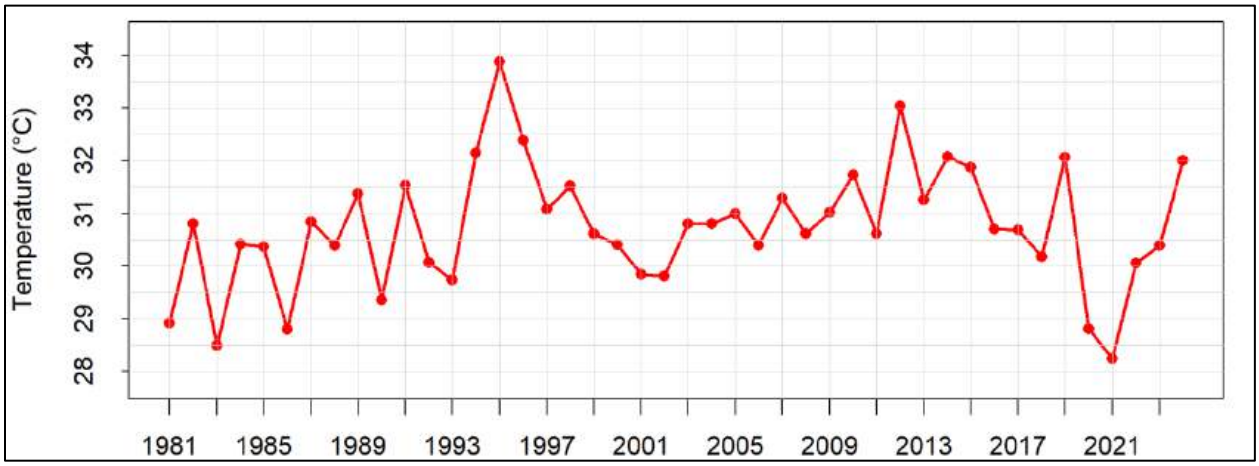

Figure 4.5.7: Interannual variability of all Nepal monthly average minimum temperature of May from 1981 to 2024 (average of 61 stations).

Minimum Temperature

Most parts of the country observed normal to above normal minimum temperature (Figure 4.5.9). Minimum temperature remained above 24°C in most parts of Terai region (Figure 4.5.8).

Birgunj station of Parsa district and Humde station of Manang district recorded the highest and lowest monthly average minimum temperature of 26.0°C and 4.8°C respectively. Similarly, the highest monthly anomaly of 2.8°C was recorded at Gaida (Kankai) station of Jhapa district and the lowest anomaly of -4.3°C was recorded at Gaur station of Rautahat district. The highest daily minimum temperature of 33.0°C was recorded at Rampur station of Chitwan district on 25th May while the lowest daily minimum temperature of -2.8°C was recorded at Humde station of Manang district on 2nd May. The country averaged minimum temperature of May 2024 was the highest since 2001 (Figure 4.5.10).

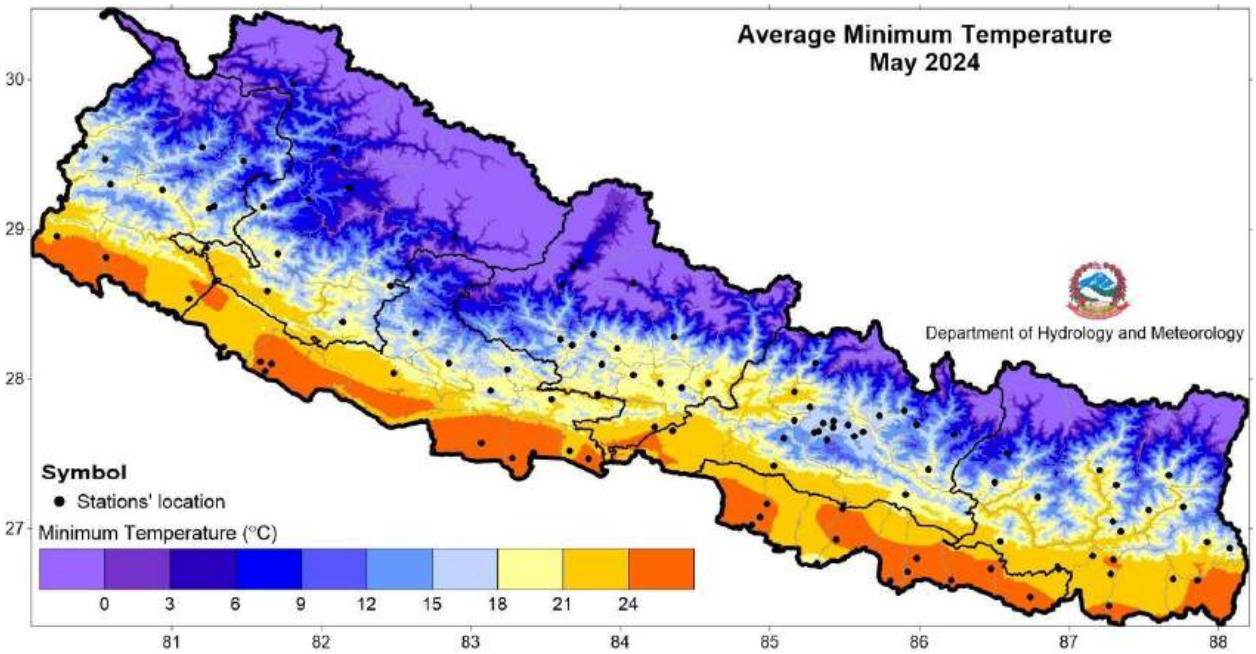

Figure 4.5.8: Minimum Temperature in May 2024.

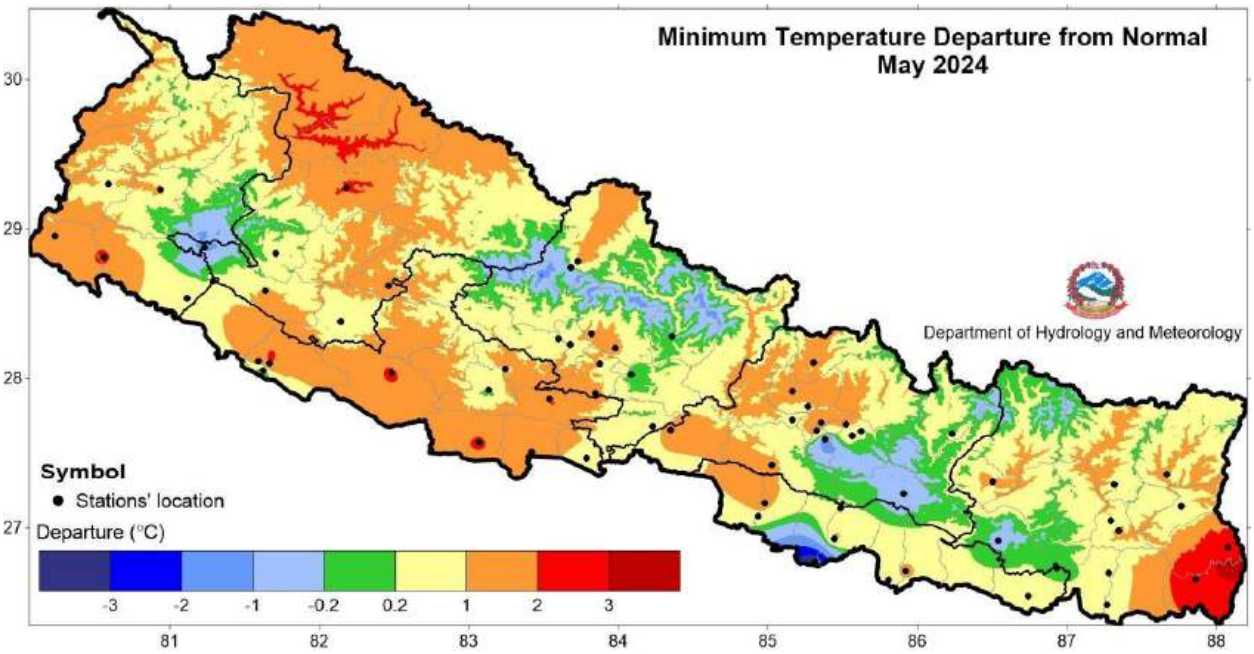

Figure 4.5.9: Departure from normal minimum temperature in May 2024.

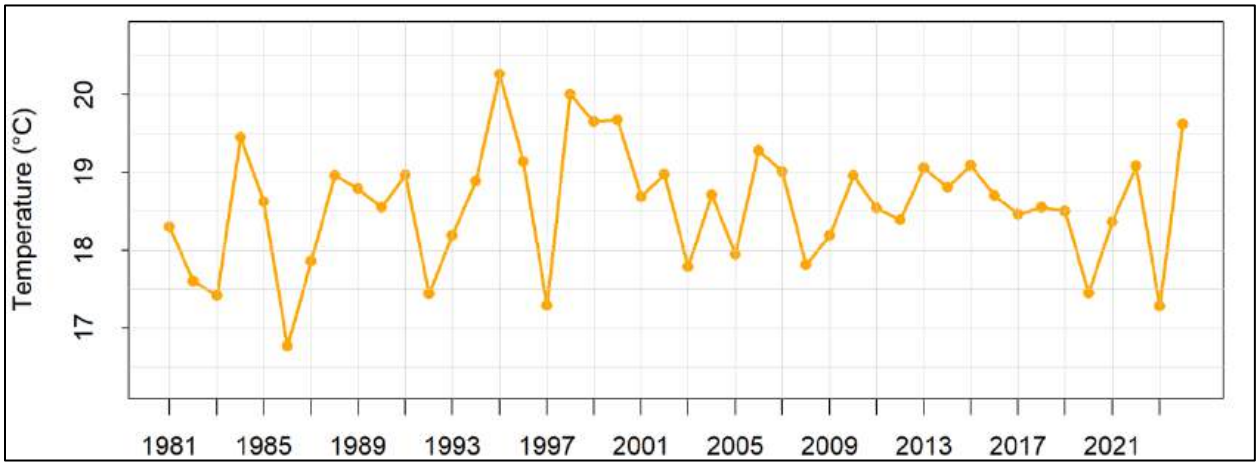

Figure 4.5.10: Interannual variability of all Nepal monthly average minimum temperature of May from 1981 to 2024 (average of 59 stations).

4.6 June

Highlights

Precipitation over the country as a whole was 94.7% of the normal indicating near-normal precipitation. Above normal maximum temperature was observed in most parts of the country. Most parts of the country observed above normal minimum temperature. Baglung, Chainpur (Bajhang), Changunarayan, Darchula, Jumla and Patan (Baitadi) stations made the new record of highest maximum temperature.

Synoptic Sequence

Monsoon entered eastern Nepal three days earlier than normal onset day on 10th June covering eastern half of Koshi Province. It spread over the remaining part of Koshi Province, Madhesh Province, Bagamati province, most part of Gandaki Province and eastern part of Lumbini Province on 20th June and covered whole Nepal on 24th June. Western disturbances along with local disturbances affected the weather of eastern Nepal during the first week and first half of second week of June while western disturbances along with local disturbances affected the remaining part of Nepal until 24th June.

Precipitation

Southern part of Koshi Province recorded precipitation greater than 800 mm while the northern part of Karnali Province and north-western part of Gandaki Province recorded precipitation less than 50 mm (Figure 4.6.1). Most part of Sudurpaschim Province and Karnali Province, large part of Gandaki Province, Lumbini Province, and Bagamati province, and western part of Madhesh Province recorded below normal precipitation while southern and north-eastern part of Koshi Province recorded above normal precipitation (Figure 4.6.2).

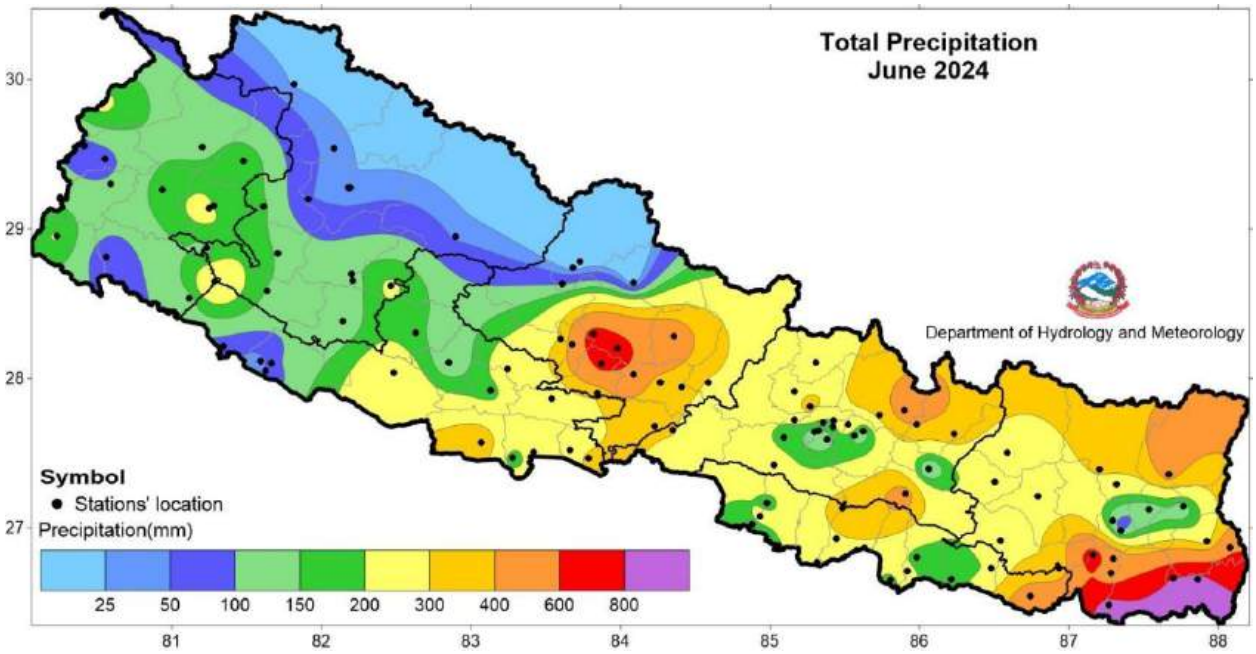

Figure 4.6.1: Total precipitation in June 2024.

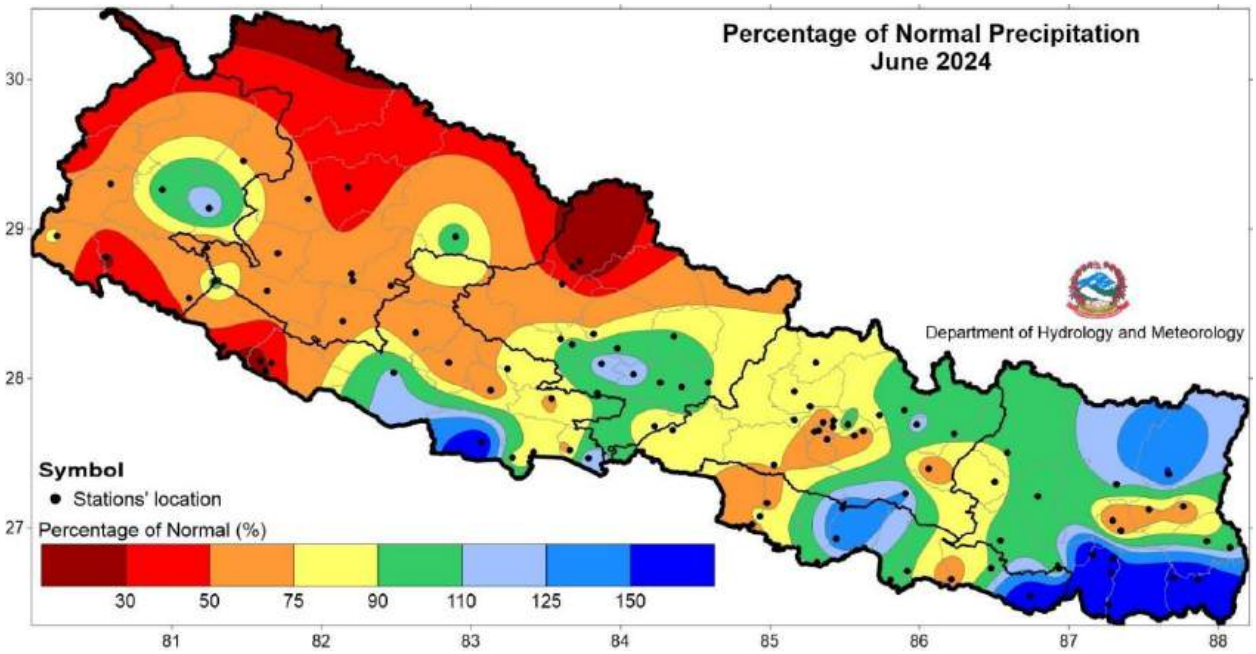

Figure 4.6.2: Percentage of normal precipitation in June 2024.

Biratnagar Airport station of Morang district recorded the highest monthly total precipitation of 879.4 mm with highest percentage of normal of 287.2% while Jomsom station of Manang district recorded the lowest monthly total precipitation of 0.03 mm with lowest percentage of normal of 0.1%. Based on the average of 100 stations (stations with normal precipitation data), Nepal received 94.7% of the normal precipitation.

The highest daily precipitation of 361.0 mm was recorded at Biratnagar Airport station of Morang district on 26th June. The country averaged total precipitation of June 2024 was higher than in 2023 but lower than the precipitation recorded from 2020, 2021 and 2022 (Figure 4.6.3). The temporal distribution of all Nepal average daily cumulative of daily precipitation shows that precipitation was near-normal at first and last week, but below normal for the remaining of the period (Figure 4.6.4).

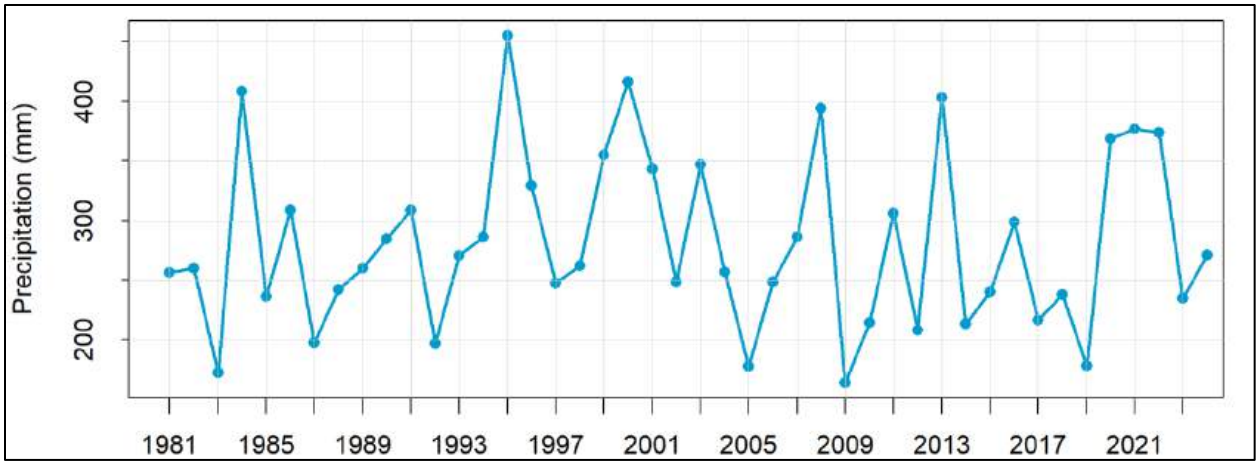

Figure 4.6.3: Interannual variability of all Nepal monthly total precipitation of June from 1981 to 2024 (average of 97 stations).

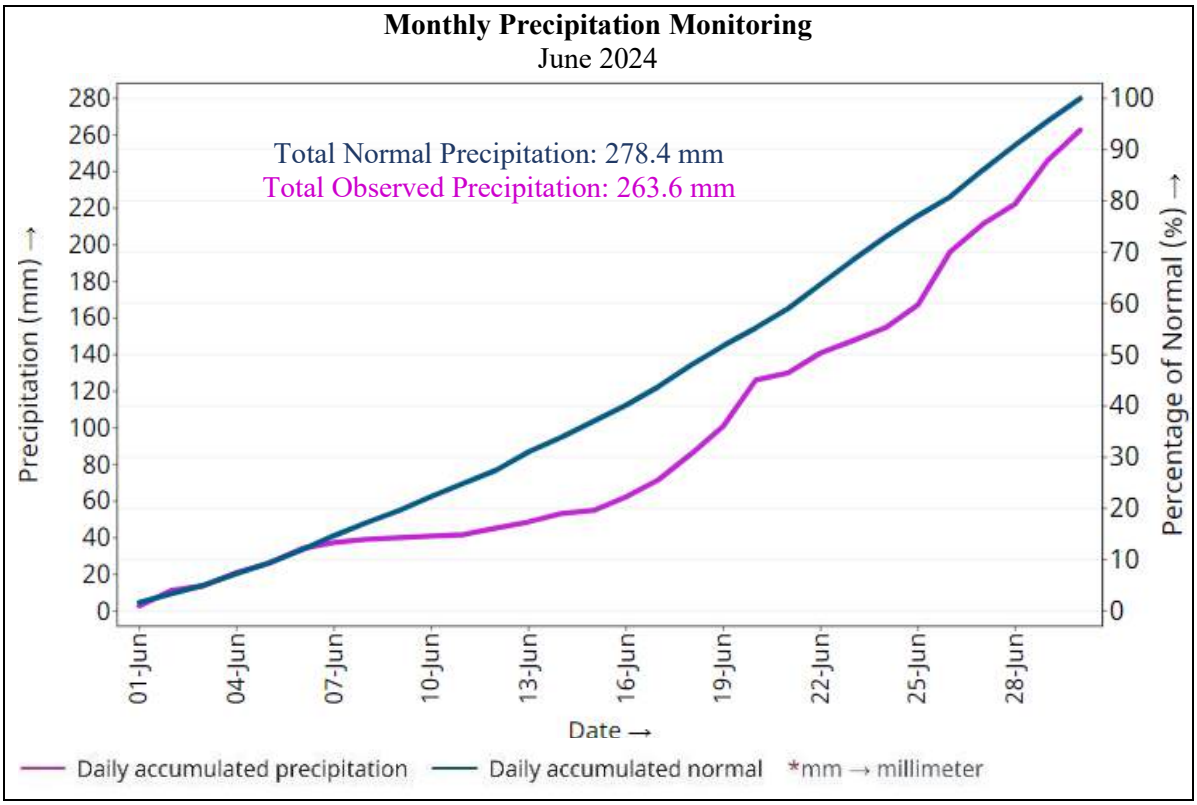

Figure 4.6.4: Cumulative all Nepal daily normal and observed precipitation during June 2024.

Maximum Temperature

Western and central Terai recorded higher maximum temperature in comparison to eastern Terai (Figure 4.6.5). Above normal maximum temperature was observed in most part of the country with higher positive

anomalies in the western part (Figure 4.6.6). Nepalgunj (Regional Office) station of Banke district and Humde station of Manang district recorded the highest and lowest monthly average maximum temperature of 40.2°C and 20.2°C respectively. Similarly, the highest monthly anomaly of 3.9°C was recorded at Nepalgunj (Regional Office) station of Banke district and the lowest of -1.5°C was recorded at Semari station of Nawalparasi West district. The highest daily maximum temperature of 44.6°C was recorded at Nepalgunj (Regional Office) station of Banke district on 13th June while the lowest daily maximum temperature of 16.9°C was recorded at Humde station of Manang district on 26th June. The country averaged maximum temperature for June 2024 was lower than in 2023 but higher than the temperature recorded from 2020, 2021 and 2022 (Figure 4.6.7).

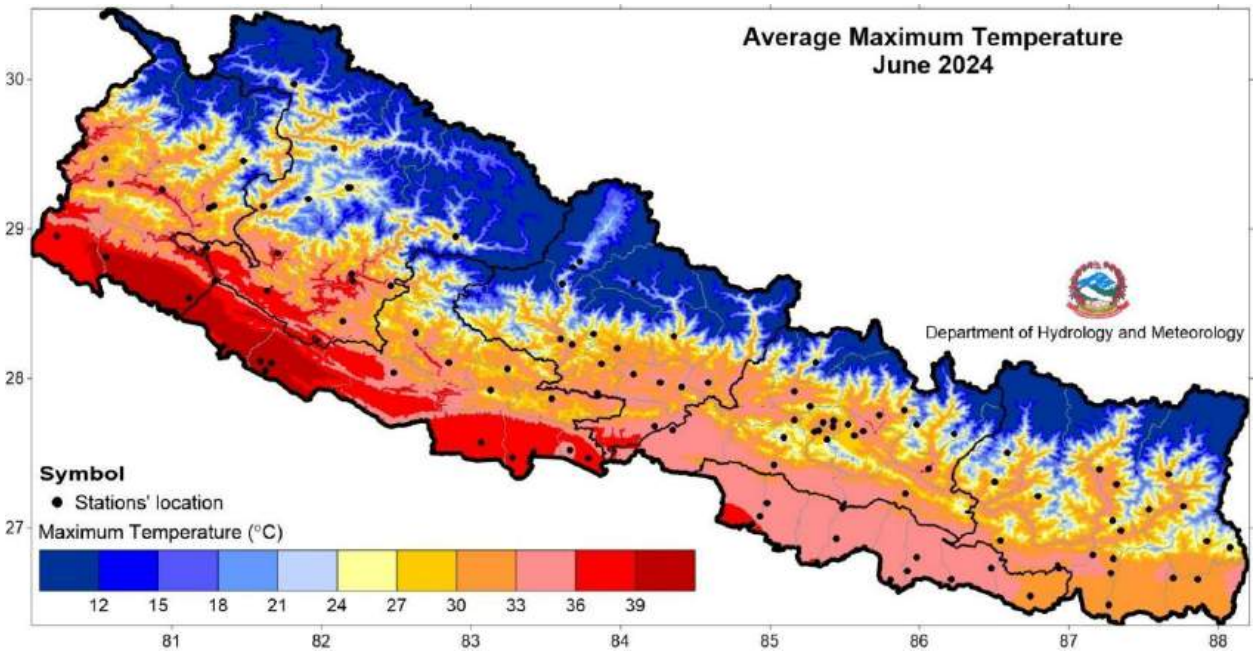

Figure 4.6.5: Maximum Temperature in June 2024.

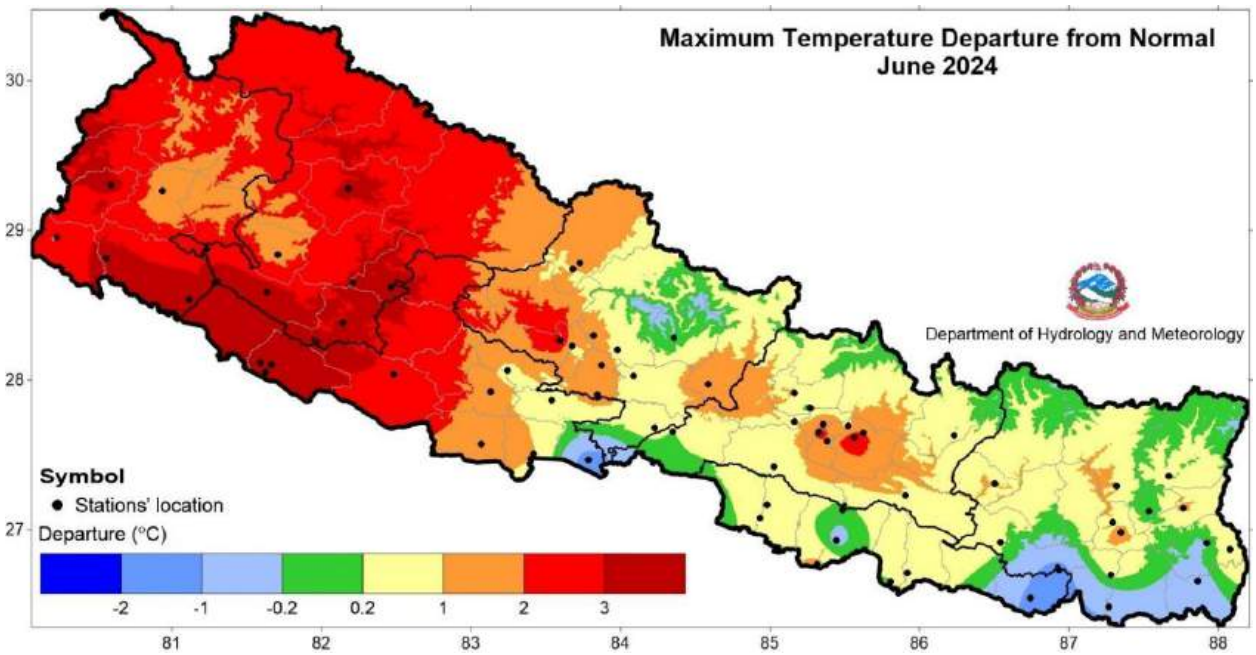

Figure 4.6.6: Departure from normal maximum temperature in June 2024.

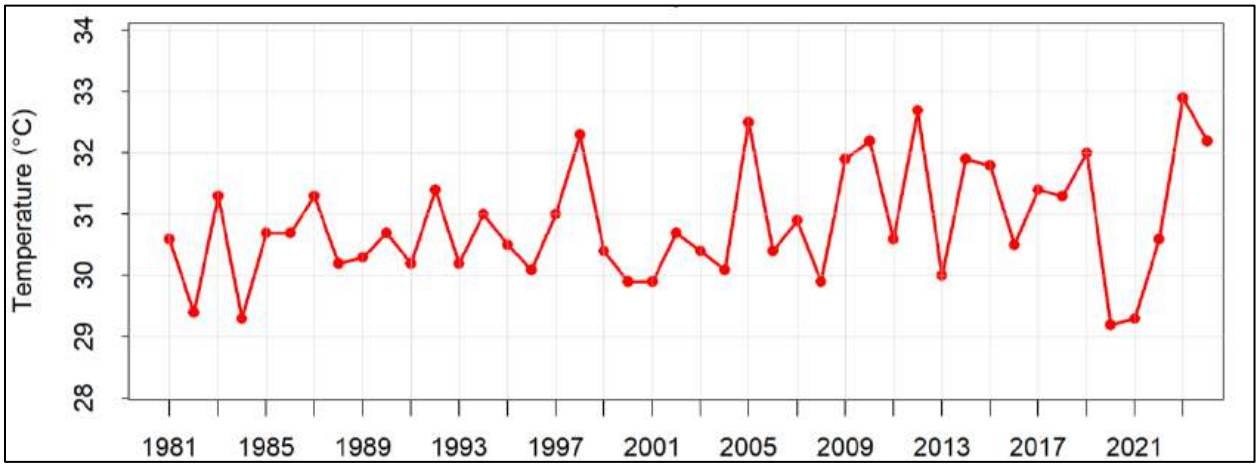

Figure 4.6.7: Interannual variability of all Nepal monthly average maximum temperature of June from 1981 to 2024 (average of 59 stations).

Minimum Temperature

The minimum temperature in the Terai remained above 24°C, reaching over 27°C in some areas (Figure 4.6.8). Most parts of the country observed above normal minimum temperature (Figure 4.6.9).

Nepalgunj (Regional Office) station of Banke district and Humde station of Manang district recorded the highest and lowest monthly average minimum temperature of 28.0°C and 9.4°C respectively. Similarly, the highest monthly anomaly of 2.9°C was recorded at Chainpur (East) station of Sankhuwasabha district and the lowest anomaly of -1.0°C was recorded at Tikapur station of Kailali district. The highest daily minimum temperature of 31.8°C was recorded at Khajura station of Banke district on 19th June while the lowest daily minimum temperature of 6.0°C was recorded at Humde station of Manang district on 6th June. The country averaged minimum temperature in June 2024 was the highest since 1999 (Figure 4.6.10).

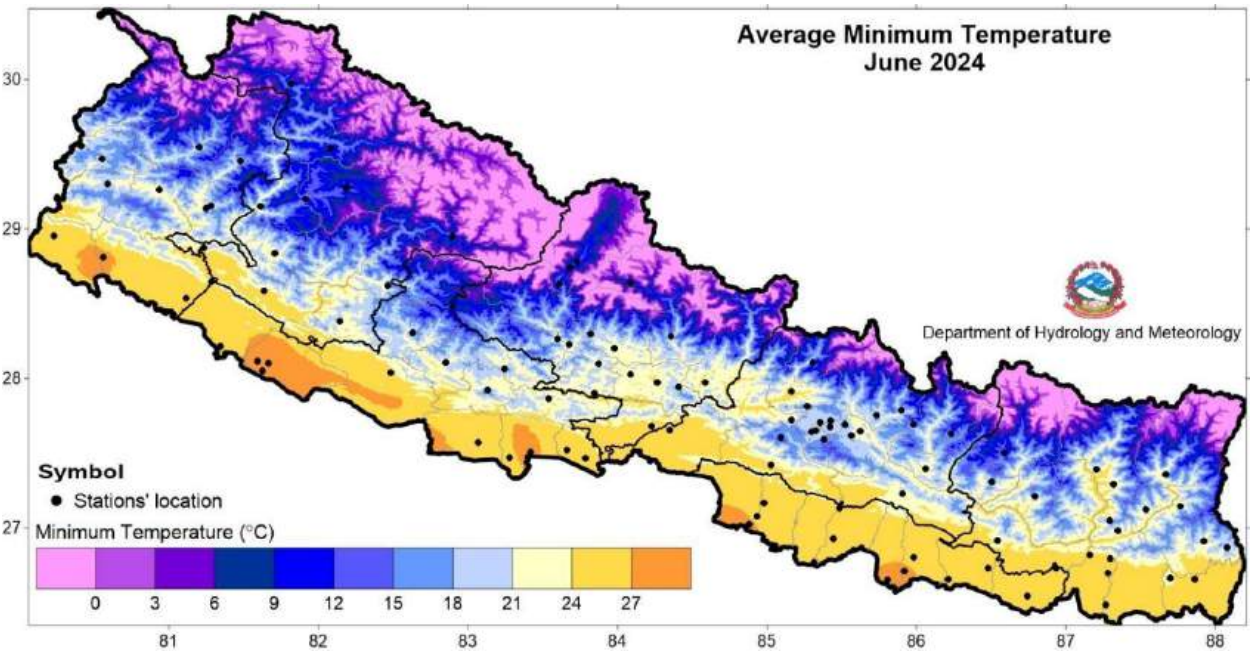

Figure 4.6.8: Minimum Temperature in June 2024.

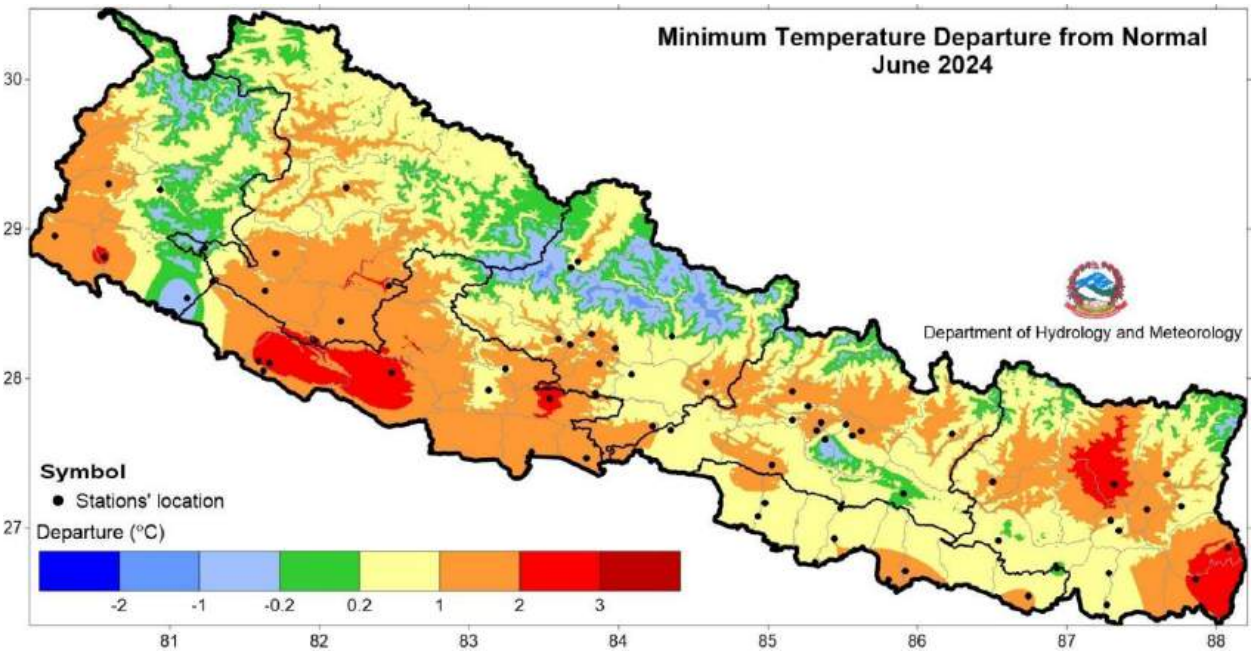

Figure 4.6.9: Departure from normal minimum temperature in June 2024.

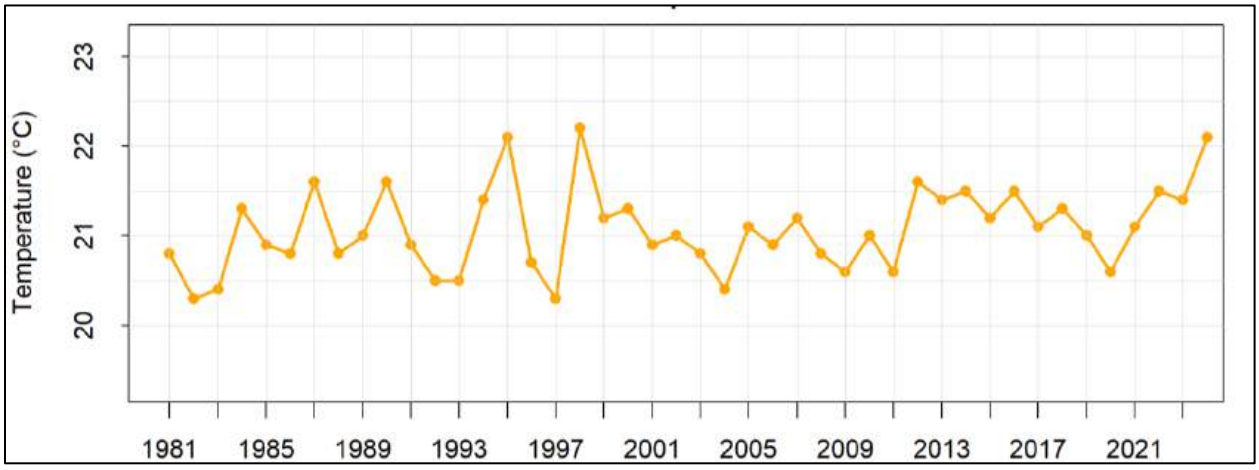

Figure 4.6.10: Interannual variability of all Nepal monthly average minimum temperature of June from 1981 to 2024 (average of 60 stations).

4.7 July

Highlights

Precipitation over the country as a whole was 127.9% of the normal indicating above normal precipitation. Above normal maximum and minimum temperature was observed in most parts of the country. Diktel station made the new record of highest daily precipitation this July.

Synoptic Sequence

Weather over Nepal was affected by the monsoon enhancing the rainfall activities during July. Monsoon trough was north of the normal position during the first week and few days of the second week.

Precipitation

Central part of Gandaki Province recorded precipitation greater than 1200 mm while the northern part of Karnali Province and north-western part of Gandaki Province recorded precipitation less than 200 mm (Figure 4.7.1). Most parts of the country recorded above normal precipitation while the southern part of Koshi Province and western part of Madhesh Province recorded below normal precipitation (Figure 4.7.2).

Lumle station of Kaski district recorded the highest monthly total precipitation of 1728.9 mm while Jomsom station of Mustang district recorded the lowest monthly total precipitation of 91.5 mm. Similarly, Dipayal station of Doti district recorded the highest percentage of normal of 240.3% while Phattepur station of Saptari district recorded the lowest percentage of normal of 52.6%. Based on the average of 99 stations (stations with normal precipitation data), Nepal received 127.9% of the normal precipitation. The highest daily precipitation of 245.2 mm was recorded at Chapakot station of Syangja district on 6th July.

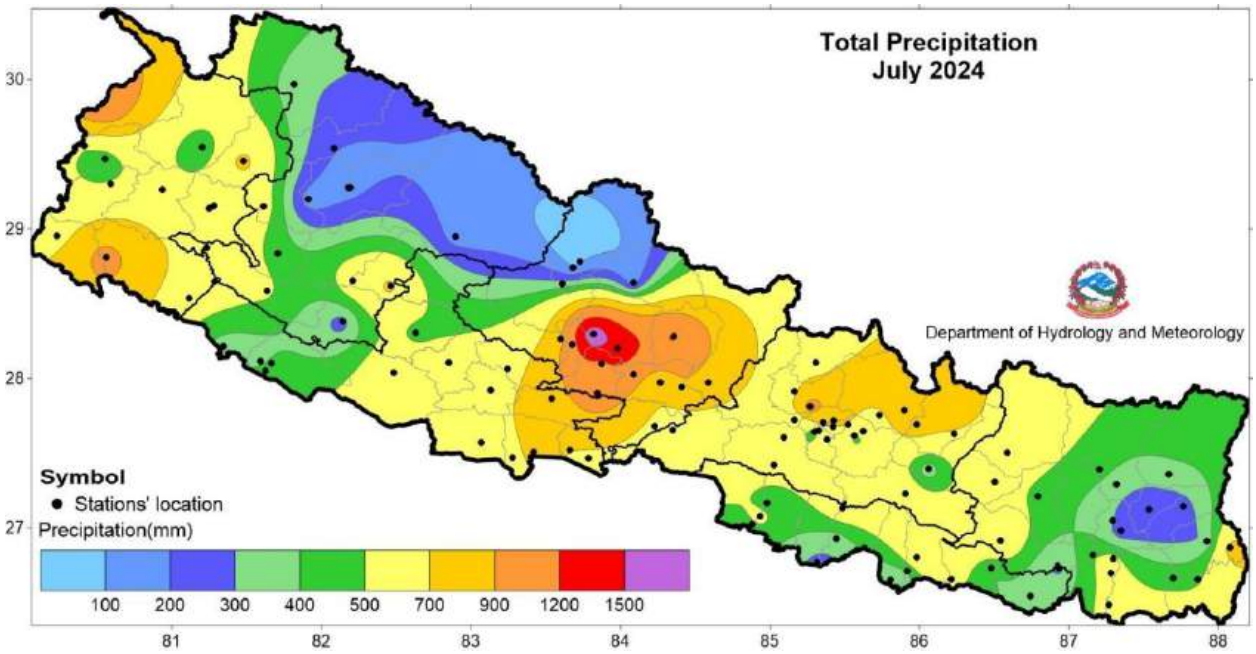

Figure 4.7.1: Total precipitation in July 2024.

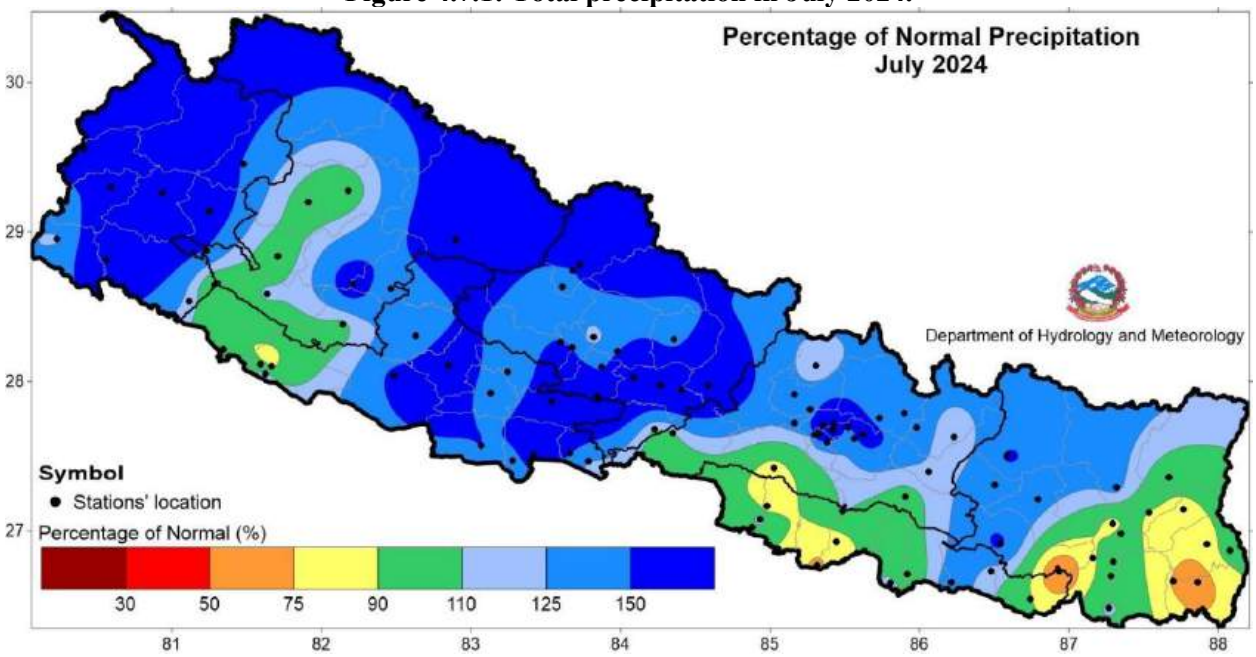

Figure 4.7.2: Percentage of normal precipitation in July 2024.

The temporal distribution of all Nepal average daily cumulative of daily precipitation shows that precipitation was above normal during July (Figure 4.7.3). The country averaged total precipitation of July 2024 was the highest in last 44 years (Figure 4.7.4).

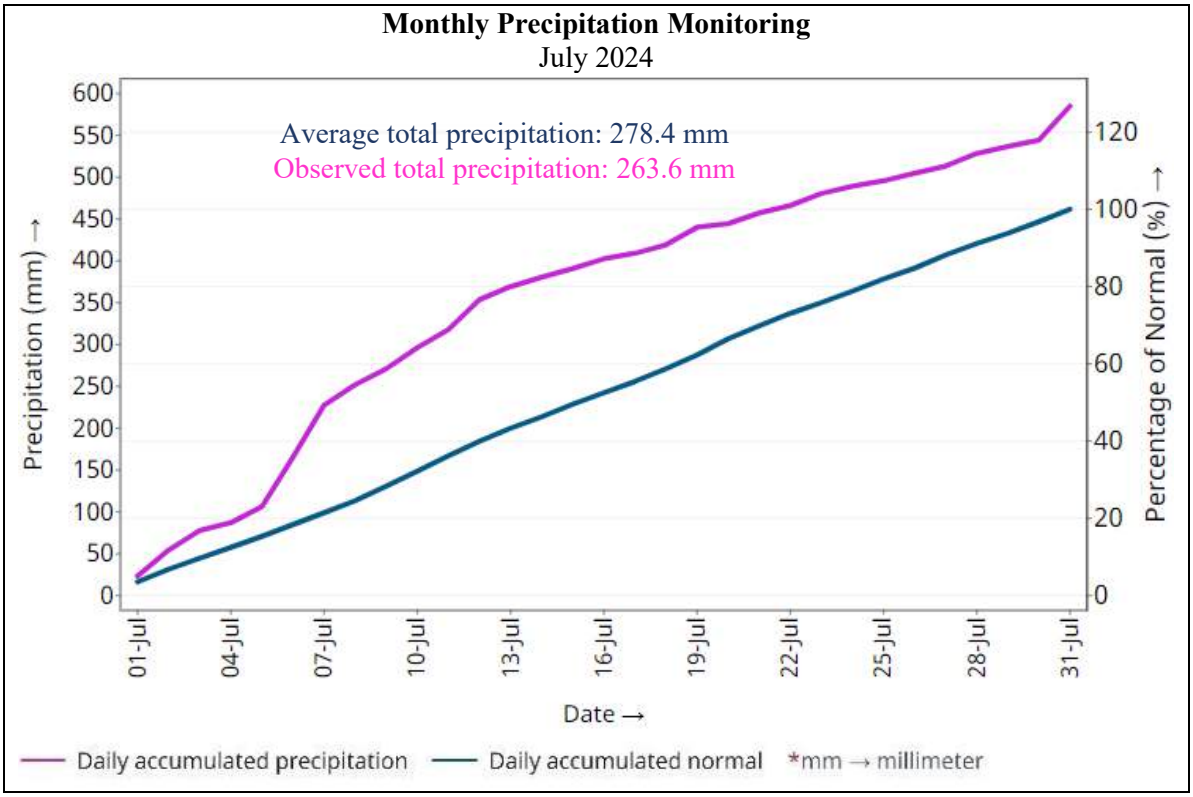

Figure 4.7.3: Cumulative all Nepal daily normal and observed precipitation during July 2024.

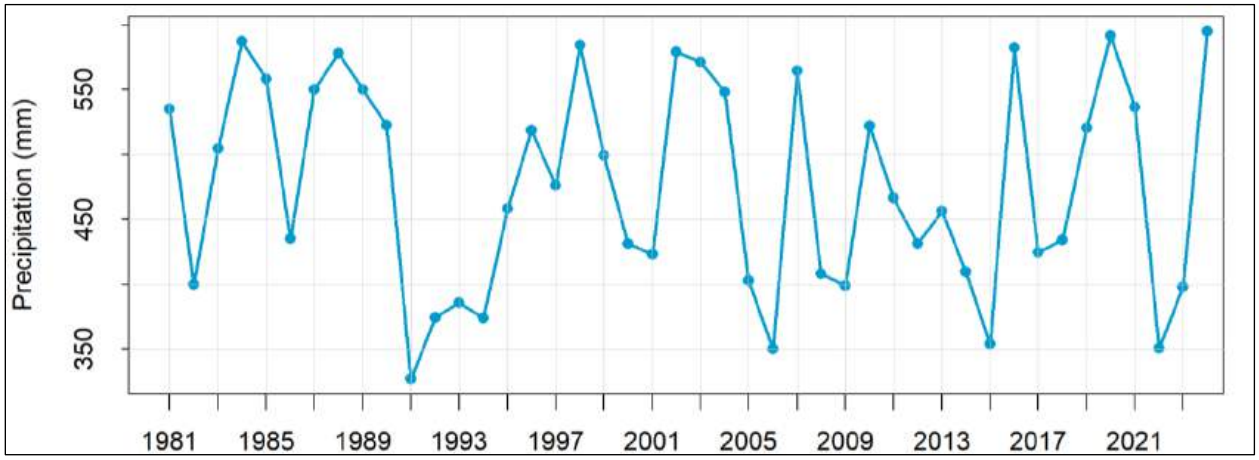

Figure 4.7.4: Interannual variability of all Nepal monthly total precipitation of July from 1981 to 2024 (average of 97 stations).

Maximum Temperature

The maximum temperature in the Terai remained above 33°C (Figure 4.7.5). Most parts of the country recorded above normal maximum temperature, however, a few isolated parts recorded below normal temperature (Figure 4.7.6).

Birgunj station of Parsa district and Humde station of Manang district recorded the highest and lowest monthly average maximum temperature of 35.6°C and 19.6°C respectively. Similarly, the highest monthly anomaly of 2.5°C was recorded at Phidim station of panchthar district and the lowest of -1.3°C was recorded at Semari station of Nawalparasi West district. The highest daily maximum temperature of 39.8°C was recorded at Birgunj station of Parsa district on 22nd July while the lowest daily maximum temperature of

12.0°C was recorded at Simikot station of Humla district on 7th July. The country averaged maximum temperature of July 2024 was lower than in 2022 and 2023 but higher since 2016 to 2021 (Figure 4.7.7).

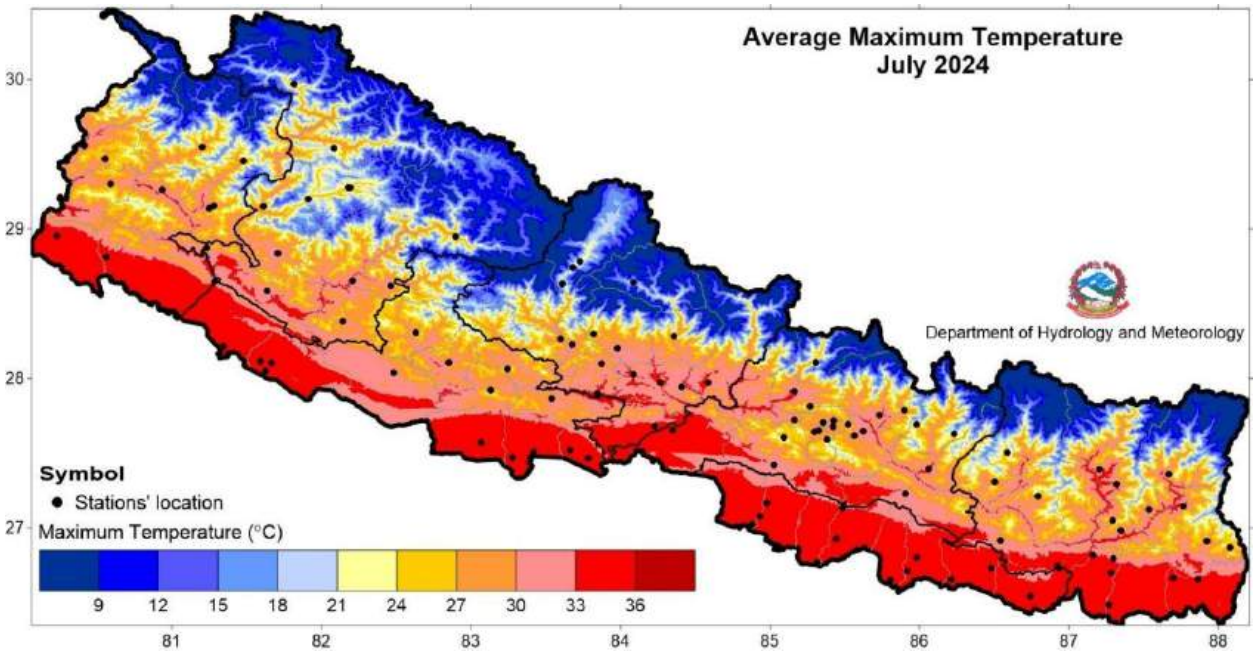

Figure 4.7.5: Maximum Temperature in July 2024.

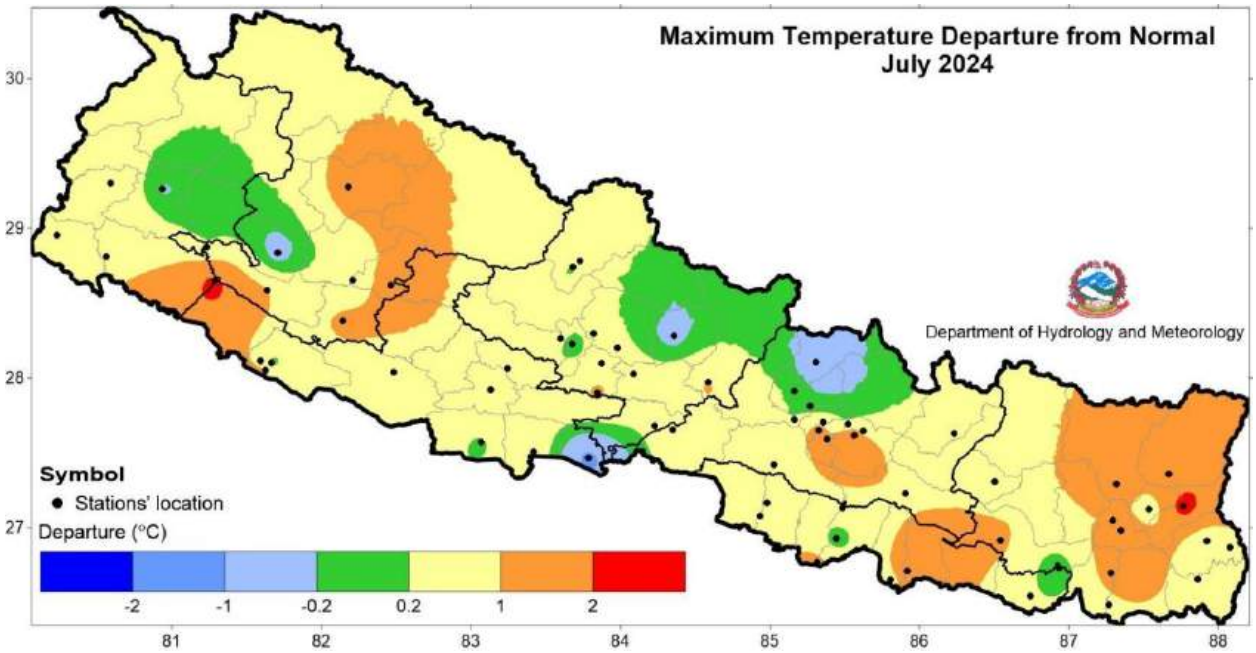

Figure 4.7.6: Departure from normal maximum temperature in July 2024.

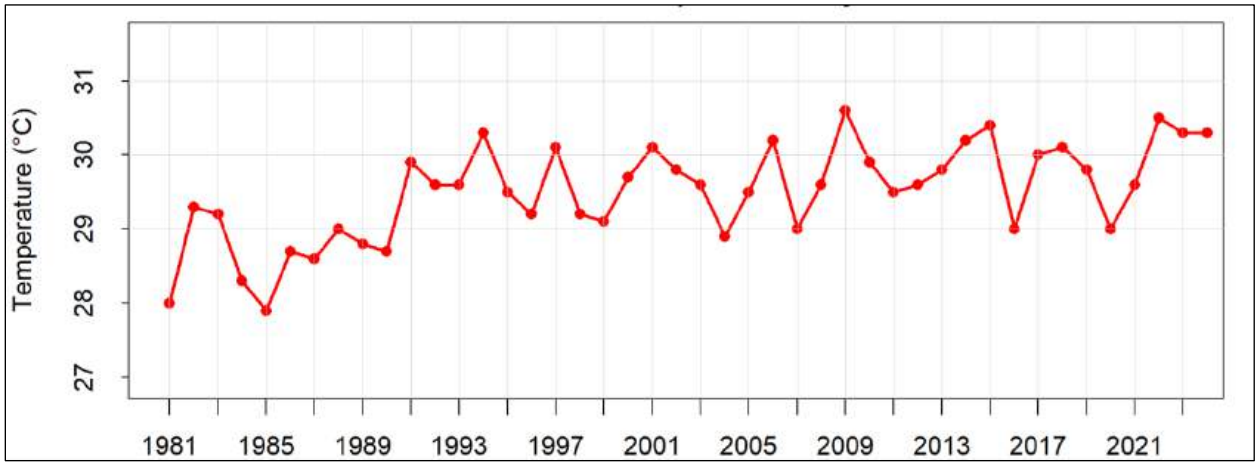

Figure 4.7.7: Interannual variability of all Nepal monthly average maximum temperature of July from 1981 to 2024 (average of 59 stations).

Minimum Temperature

The minimum temperature in the Terai remained above 24°C, reaching over 27°C in some areas (Figure 4.7.8). Most parts of the country observed above normal minimum temperature (Figure 4.7.9).

Birganj station of Parsa district and Humde station of Manang district recorded the highest and lowest monthly average minimum temperature of 28.2°C and11.4°C respectively. Similarly, the highest monthly anomaly of 2.8°C was recorded at Gaida (Kankai) station of Jhapa district and the lowest anomaly of -1.8°C was recorded at Tikapur station of Kailali district. The highest daily minimum temperature of 31.0°C was recorded at Birganj station of Parsa district on 28th July while the lowest daily minimum temperature of 6.3°C was recorded at Humde station of Manang district on 6th July. The country averaged minimum temperature in July 2024 was the highest in the last 44 years (Figure 4.7.10).

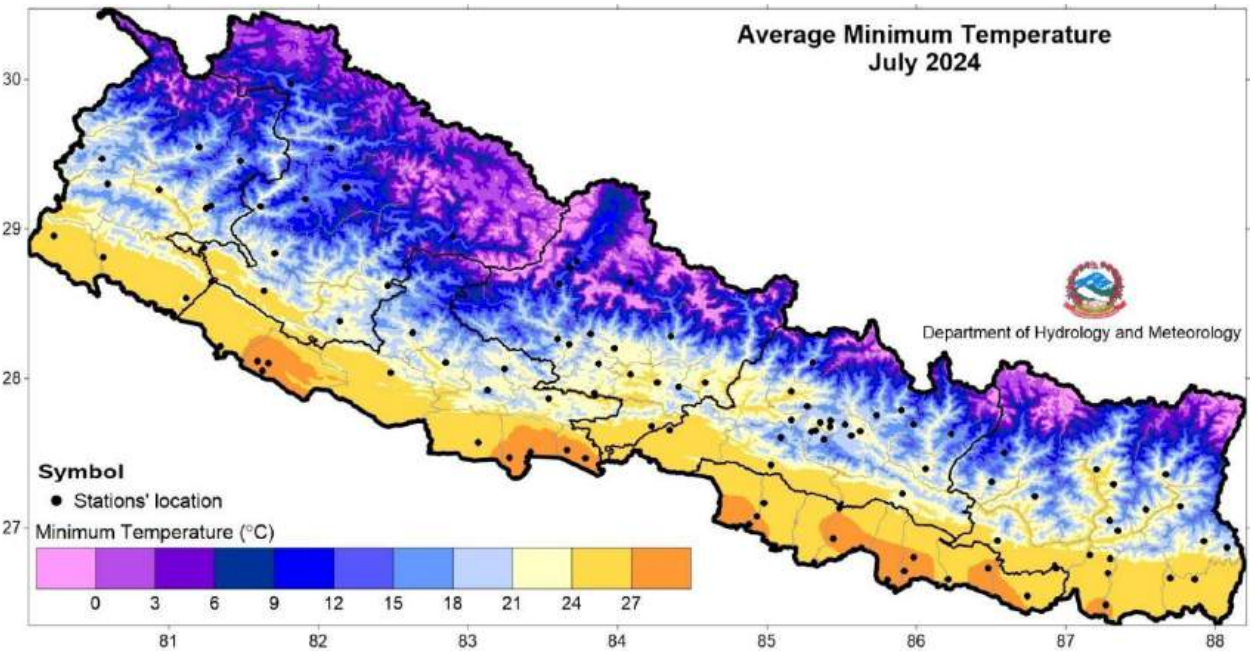

Figure 4.7.8: Minimum Temperature in July 2024.

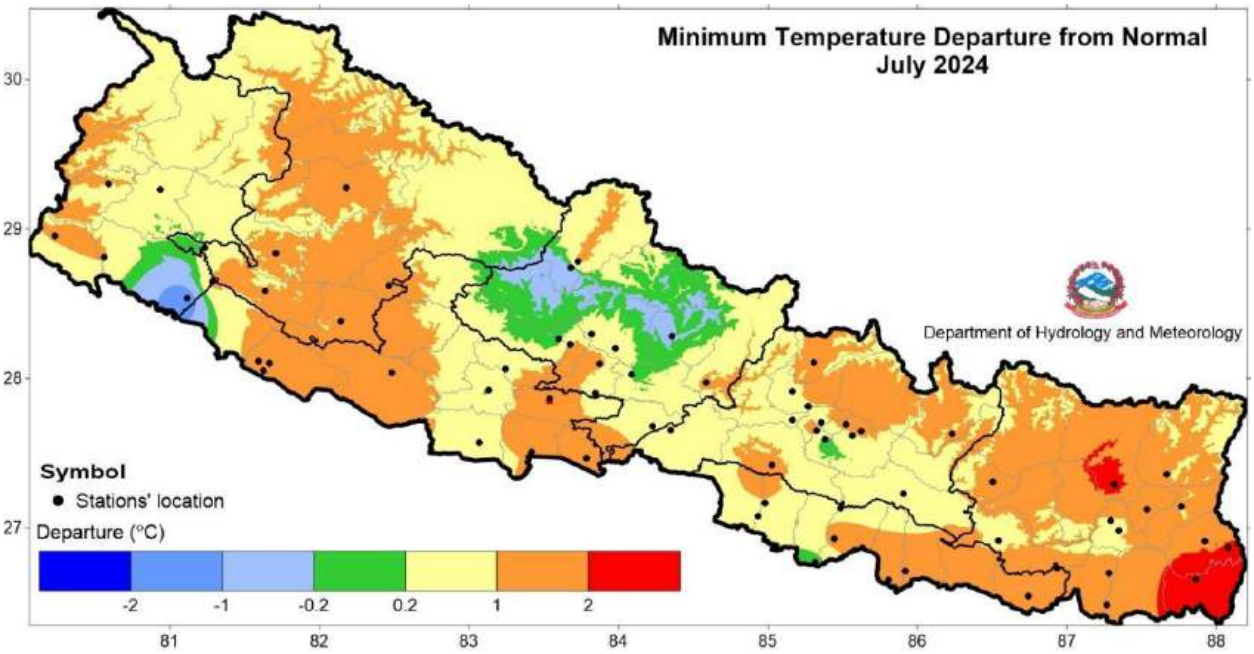

Figure 4.7.9: Departure from normal minimum temperature in July 2024.

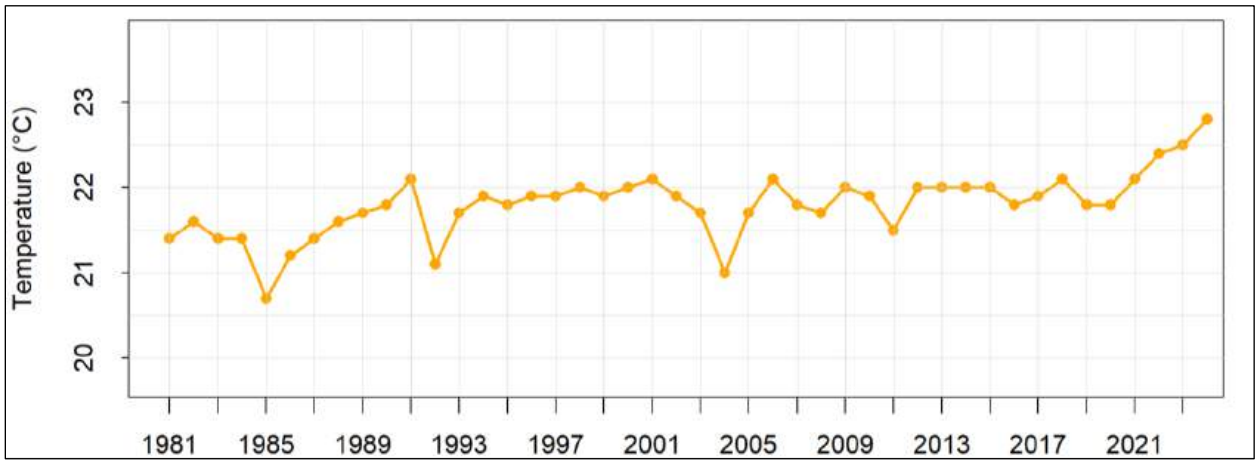

Figure 4.7.10: Interannual variability of all Nepal monthly average minimum temperature of July from 1981 to 2024 (average of 60 stations).

4.8 August

Highlights

Precipitation over the country as a whole was 103.1% of the normal indicating near-normal precipitation. Above normal maximum temperature and minimum temperature was observed across most parts of the country.

Synoptic Sequence

Low pressure areas formed over the Bay of Bengal and over Madhya Pradesh and a number of cyclonic circulations affected the weather of Nepal.

Precipitation

North-eastern part of Koshi Province, Northern part of Bagamati Province, Central part of Gandaki Province and isolated part of Sudurpaschim Province recorded precipitation greater than 600 mm while northern part of Karnali Province and north-western part of Gandaki Province recorded precipitation less than 100 mm (Figure 4.8.1). Most part of the country recorded normal to above normal precipitation while eastern part of Koshi Province, eastern part of Lumbini Province, central part of Madhesh Province and

Gandaki Province, northern part of Bagamati Province and southern part of Sudurpaschim recorded below normal precipitation (Figure 4.8.2).

Lumle station of Kaski district recorded the highest monthly total precipitation of 897.8 mm while Jomsom station of Mustang district recorded the lowest monthly total precipitation of 50.5 mm. Similarly, Manthali station of Ramechhap district recorded the highest percentage of normal of 186.3% while Semari station of Nawalparasi West district recorded the lowest percentage of normal of 46.1%. Based on the average of 98 stations (stations with normal precipitation data), Nepal received 103.1% of the normal precipitation. The highest daily precipitation of 216.5 mm was recorded at Hardinath station of Dhanusha district on 6th August.

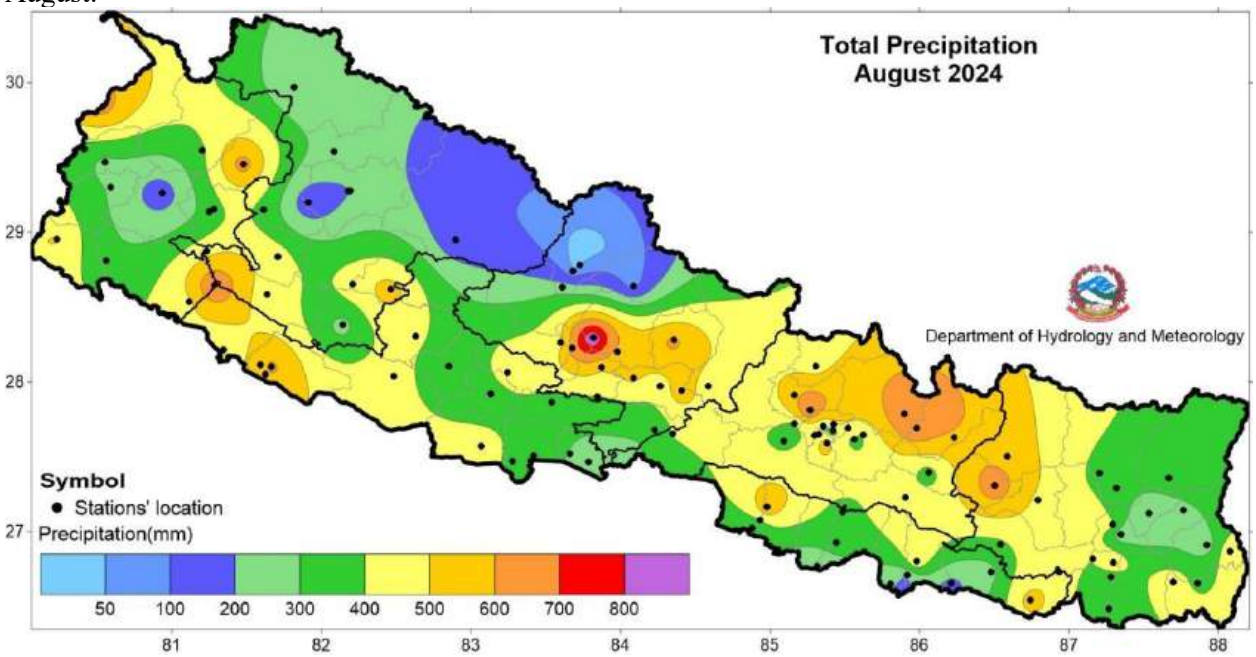

Figure 4.8.1: Total precipitation in August 2024.

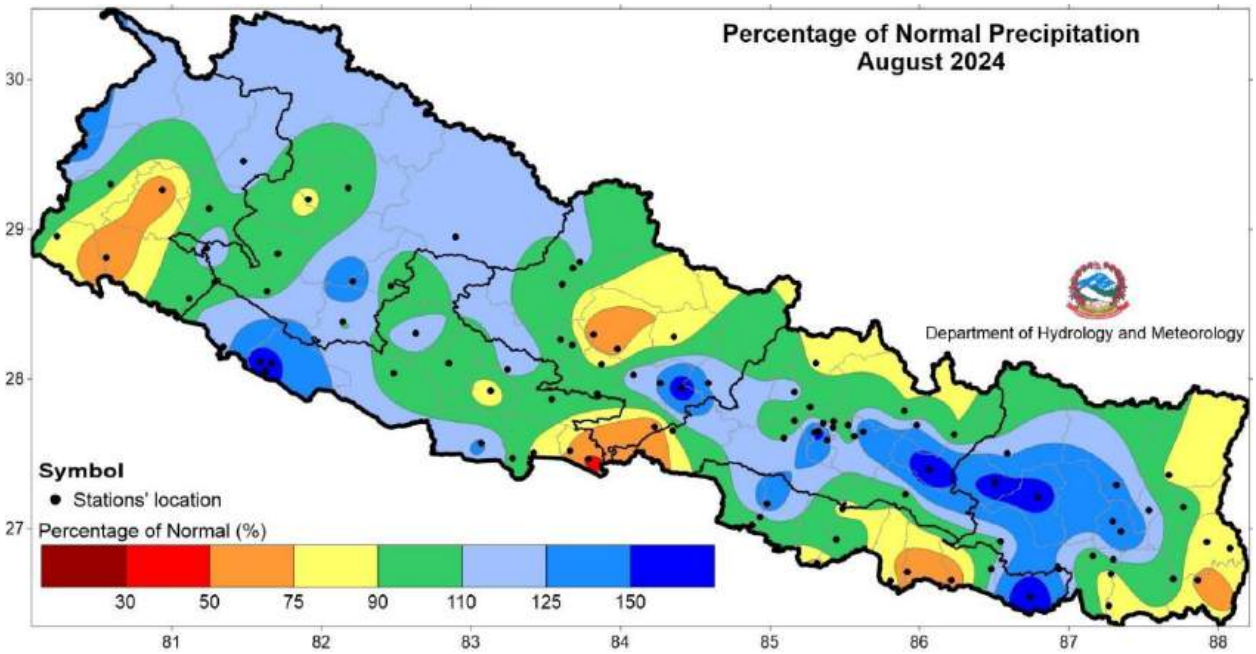

Figure 4.8.2: Percentage of normal precipitation in August 2024.

The temporal distribution of all Nepal average daily cumulative of daily precipitation shows that precipitation was above normal during August (Figure 4.8.3). The country averaged total precipitation of August 2024 was less than in 2023 (Figure 4.8.4).

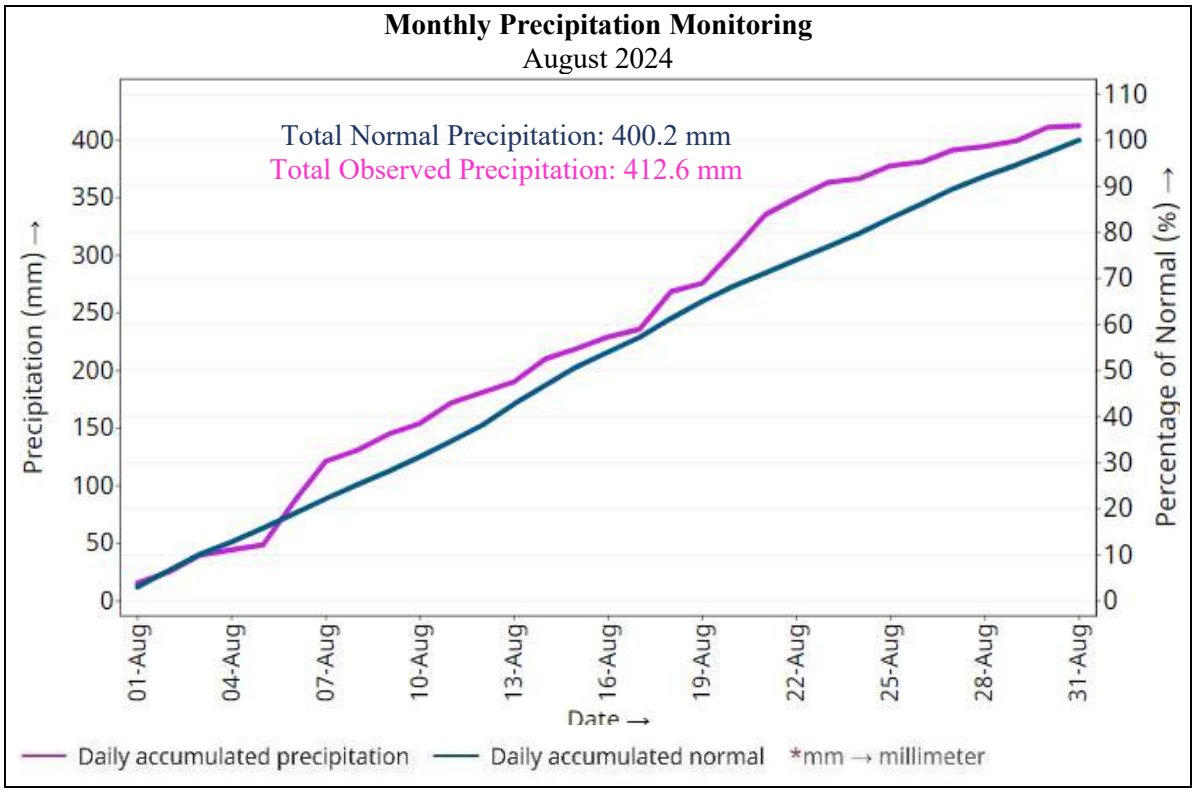

Figure 4.8.3: Cumulative all Nepal daily normal and observed precipitation during August 2024.

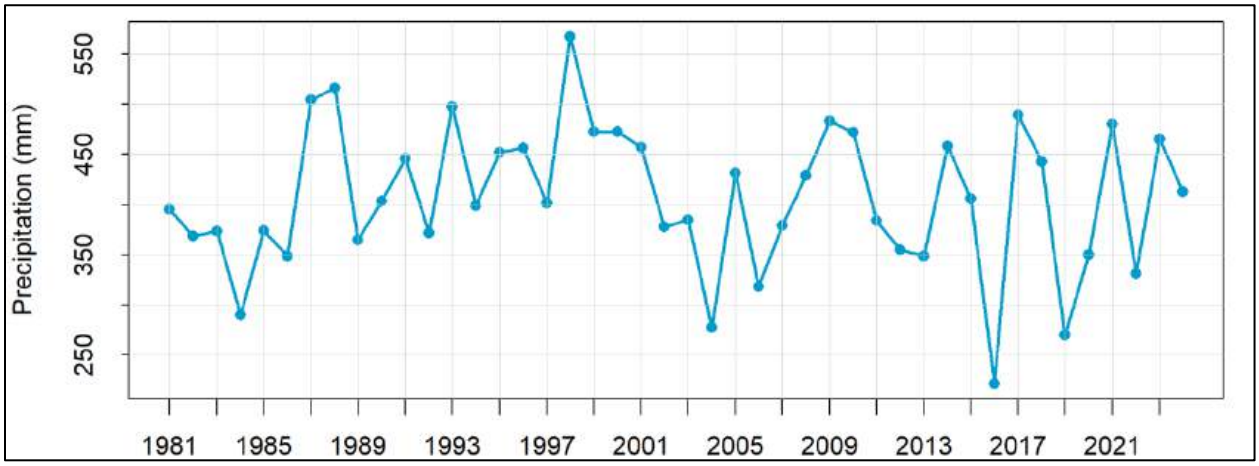

Figure 4.8.4: Interannual variability of all Nepal monthly total precipitation of August from 1981 to 2024 (average of of 97 stations).

Maximum Temperature

The maximum temperature in the most part of Terai remained above 33°C (Figure 4.8.5). Most parts of the country recorded above normal maximum temperature, however, a few isolated parts recorded below normal temperature (Figure 4.8.6).

Birgunj station of Parsa district and Humde station of Manang district recorded the highest and lowest monthly average maximum temperature of 35.6°C and 19.2°C respectively. Similarly, the highest monthly

anomaly of 2.4°C was recorded at Dhulikhel station of Kavrepalanchok district and the lowest of -0.9°C was recorded at Semari station of Nawalparasi West district. The highest daily maximum temperature of 39.5°C was recorded at Dumkauli station of Nawalparasi East district on 4th August while the lowest daily maximum temperature of 16.0°C was recorded at Humde station of Manang district on 7th August. The country averaged maximum temperature in August 2024 was higher than in 2023 (Figure 4.8.7).

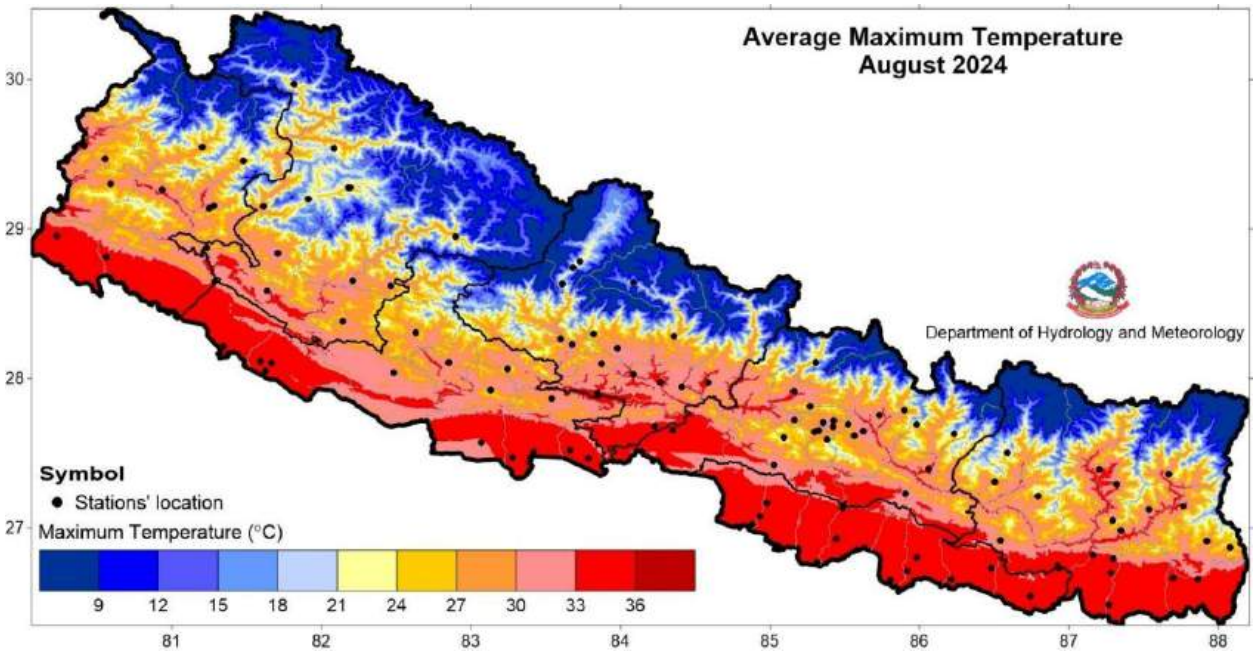

Figure 4.8.5: Maximum Temperature in August 2024.

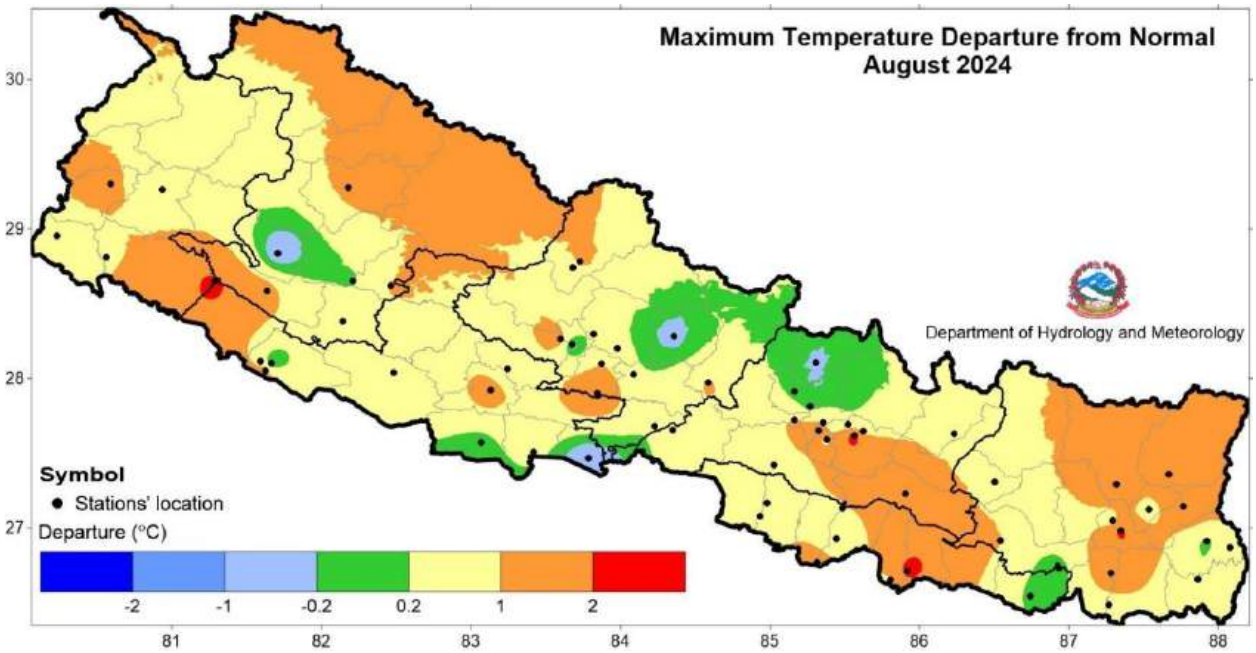

Figure 4.8.6: Departure from normal maximum temperature in August 2024.

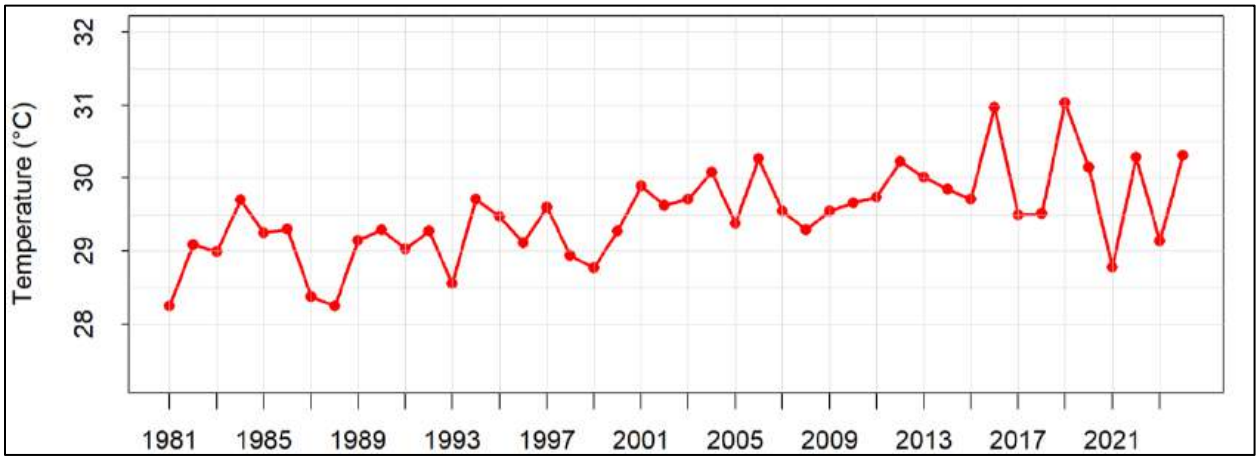

Figure 4.8.7: Interannual variability of all Nepal monthly average maximum temperature of August from 1981 to 2024 (average of 59 stations).

Minimum Temperature

The minimum temperature in the Terai remained above 24°C, reaching over 27°C in some areas (Figure 4.8.8). Most parts of Koshi Province, Lumbini province, Karnali Province and Sudurpaschim Province, eastern part of Madhesh Province, western part of Bagamati Province recorded above normal minimum temperature while the rest of the country recorded normal to below normal minimum temperature (Figure 4.8.9).

Jaleshwor station of Mahottari district and Humde station of Manang district recorded the highest and lowest monthly average minimum temperature of 27.4°C and 10.2°C respectively. Similarly, the highest monthly anomaly of 2.4°C was recorded at Chainpur (East) station of Sankhuwasabha district and the lowest anomaly of -2.9°C was recorded at Tikapur station of Kailali district. The highest daily minimum temperature of 30.0°C was recorded at Jaleshwor station of Mahottari district on 31st August while the lowest daily minimum temperature of 7.9°C was recorded at Humde station of Manang district on 29th August. The country averaged minimum temperature in August 2024 was higher than in 2023 (Figure 4.8.10).

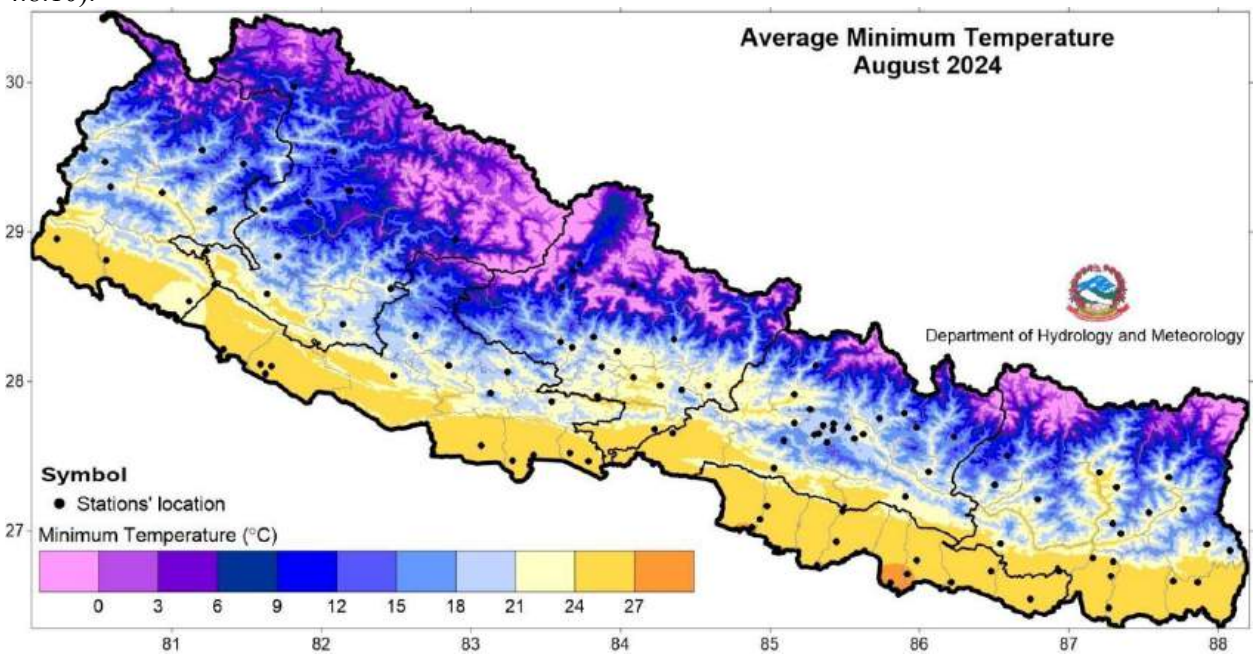

Figure 4.8.8: Minimum Temperature in August 2024.

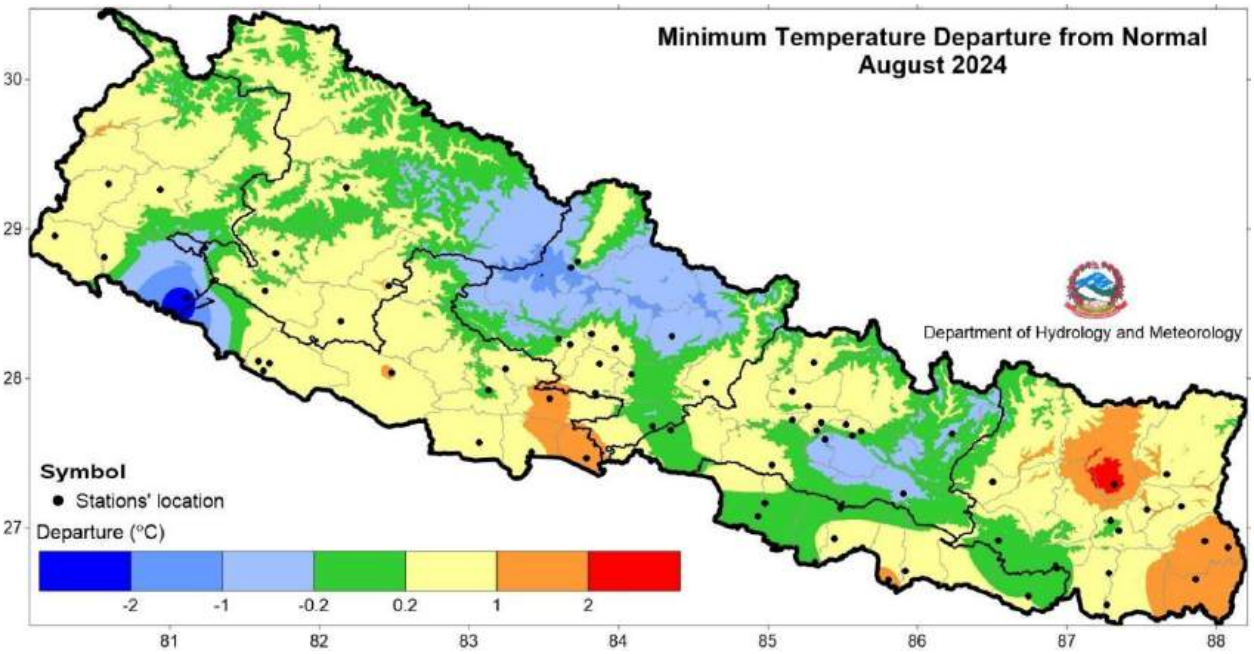

Figure 4.8.9: Departure from normal minimum temperature in August 2024.

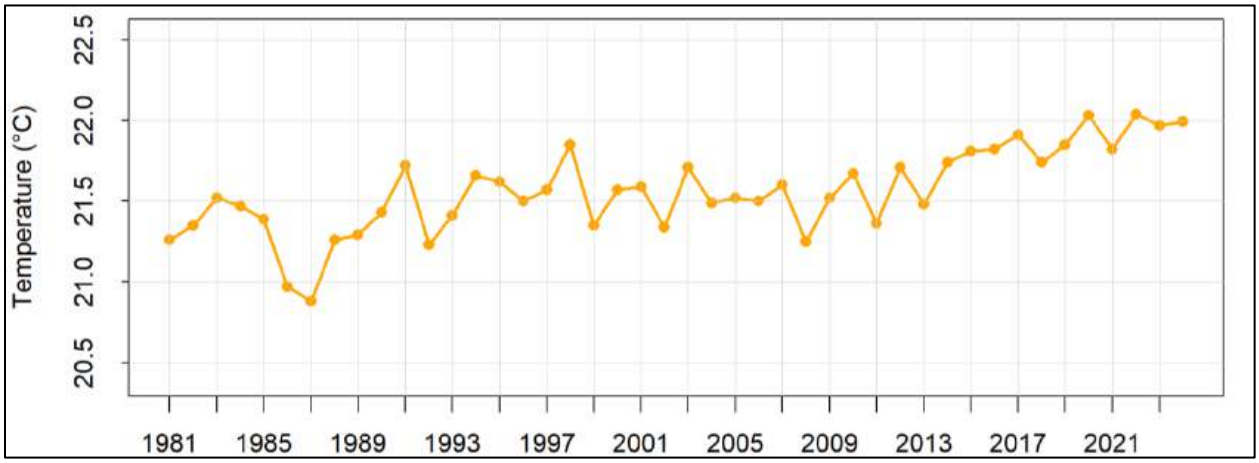

Figure 4.8.10: Interannual variability of all Nepal monthly average minimum temperature of August from 1981 to 2024 (average of 60 stations).

4.9 September

Highlights

Precipitation over the country as a whole was 170.1% of the normal indicating above normal precipitation. Above normal maximum temperature and minimum temperature was observed across most parts of the country.

Synoptic Sequence

Deep cyclonic circulation which extended up to mid-tropospheric level along with mid-tropospheric westerly trough towards the end of September, a deep depression formed over Bangladesh and adjoining West Bengal, depression formed over north Chhatisgarh and adjoining interior Odisha, number of cyclonic circulations, and western disturbances as westerly trough affected weather of Nepal. Monsoon trough was at the northern side of normal position on most days of the third week.

Precipitation

Most part of Koshi Province and Bagamati Province, western part of Madhesh Province, south-eastern part of Gandaki Province, eastern part of Lumbini Province and southern part of Sudurpaschim Province recorded precipitation greater than 400 mm while northern part of Karnali Province and north-western part of Gandaki Province recorded precipitation less than 200 mm (Figure 4.9.1). Above normal precipitation was recorded over most parts (Figure 4.9.2).

Hetauda N.F.I. station of Makwanpur district recorded the highest monthly total precipitation of 778.7 mm while Nagma station of Kalikot district recorded the lowest monthly total precipitation of 55.5 mm. Similarly, Jomsom station of Mustang district recorded the highest percentage of normal of 394.3% while Lumle station of Kaski district recorded the lowest percentage of normal of 70.9%. Based on the average of 94 stations (stations with normal precipitation data), Nepal received 170.1% of the normal precipitation. The highest daily precipitation of 410.0 mm was recorded at Daman station of Makwanpur district on 28th September.

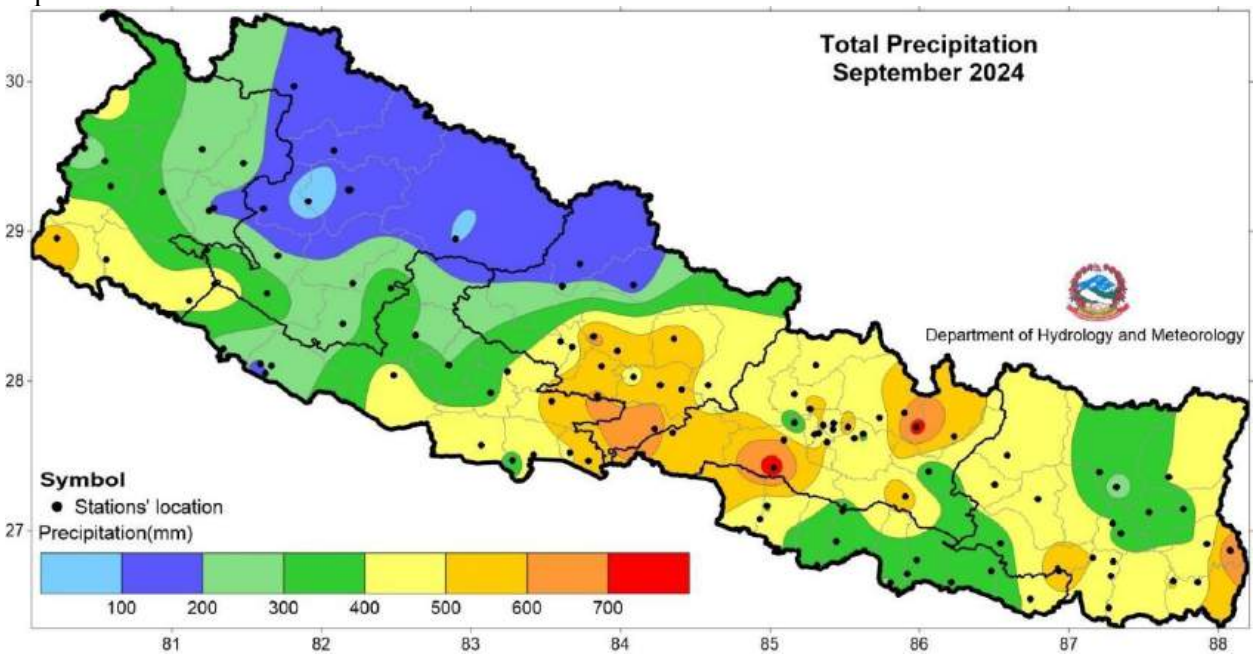

Figure 4.9.1: Total precipitation in September 2024.

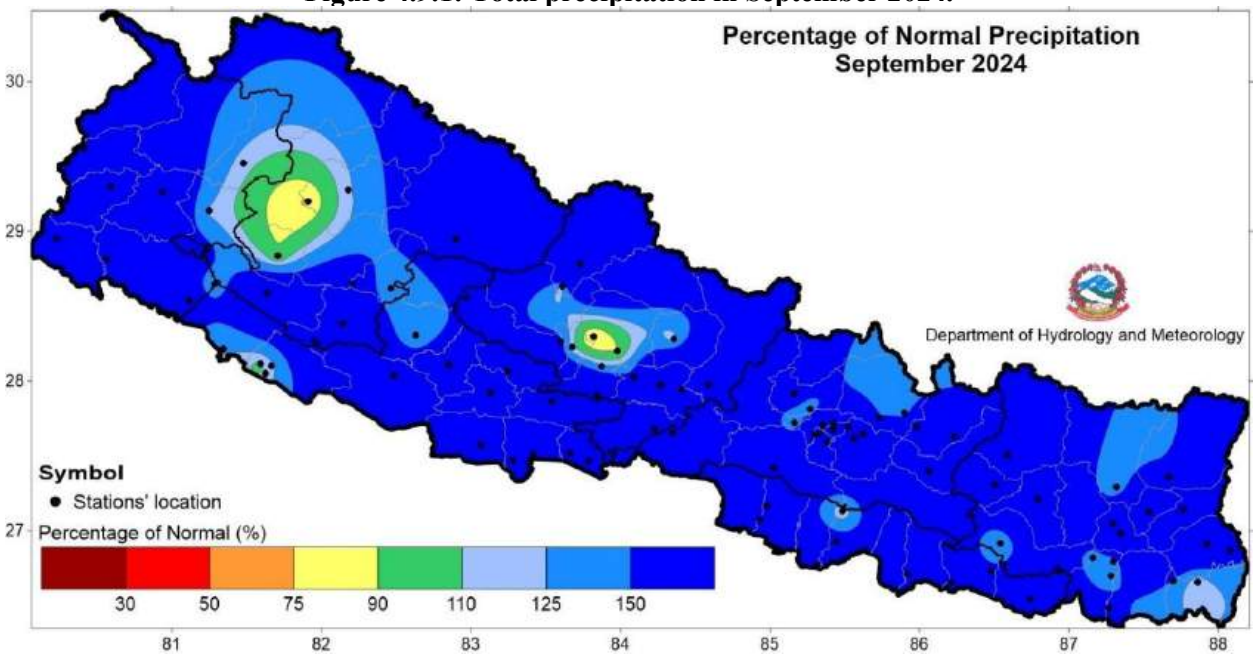

Figure 4.9.2: Percentage of normal precipitation in September 2024.

The temporal distribution of all Nepal average daily cumulative of daily precipitation shows that precipitation remained near-normal up to the end of the fourth week, followed by above-normal precipitation for the rest of the month (Figure 4.9.3). The country averaged total precipitation of September 2024 was the highest since 1981 (Figure 4.9.4).

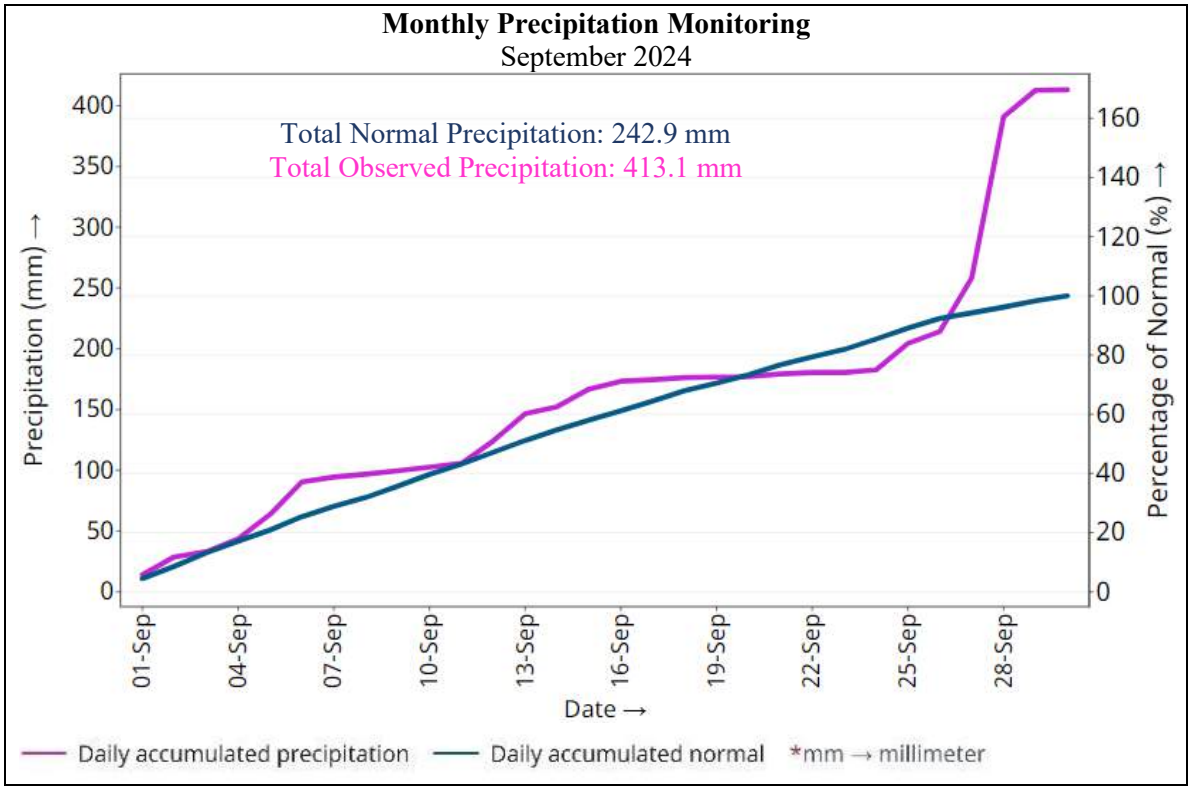

Figure 4.9.3: Cumulative all Nepal daily normal and observed precipitation during September 2024.

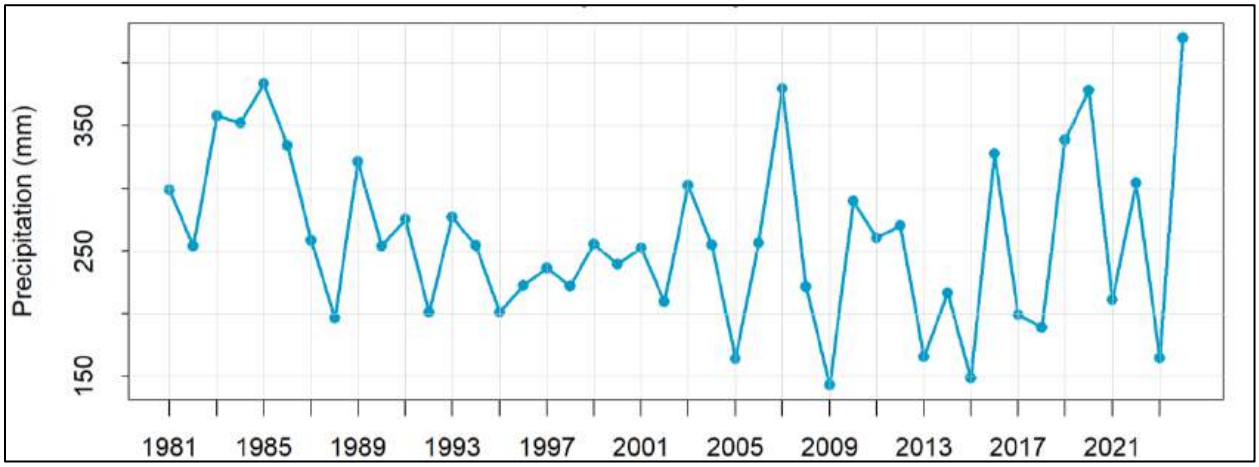

Figure 4.9.4: Interannual variability of all Nepal monthly total precipitation of September from 1981 to 2024 of (average of 97 stations).

Maximum Temperature

The maximum temperature in the most part of Terai remained above 33°C (Figure 4.9.5). Most part of the country recorded above normal maximum temperature, however, a few isolated parts recorded below normal temperature (Figure 4.9.6).

Chatara station of Sunsari district and Humde station of Manang district recorded the highest and lowest monthly average maximum temperature of 34.9°C and 17.9°C respectively. Similarly, the highest monthly anomaly of 2.9°C was recorded at Dhulikhel station of Kavrepalanchok district and the lowest of -1.1°C was recorded at Kushma station of Parbat district. The highest daily maximum temperature of 39.5°C was recorded at Lahan station of Siraha district on 23rd September while the lowest daily maximum temperature of 10.0°C was recorded at Humde station of Manang district on 27th September. The country averaged maximum temperature in September 2024 was lower than in 2023 (Figure 4.9.7).

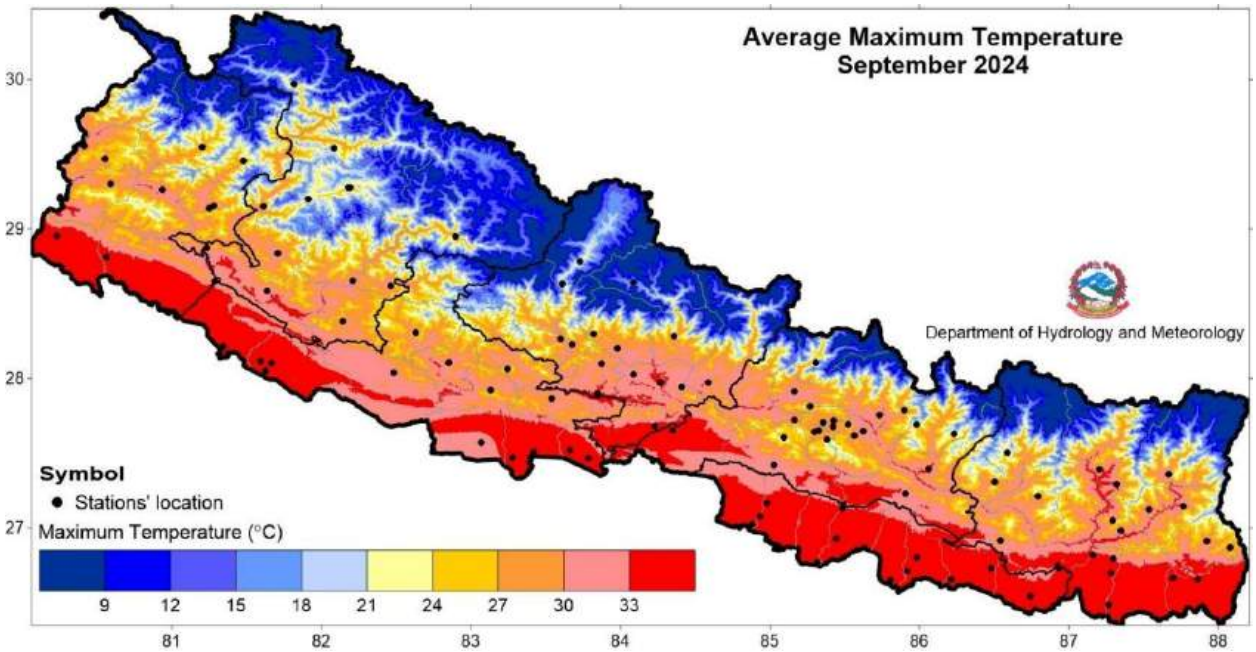

Figure 4.9.5: Maximum Temperature in September 2024.

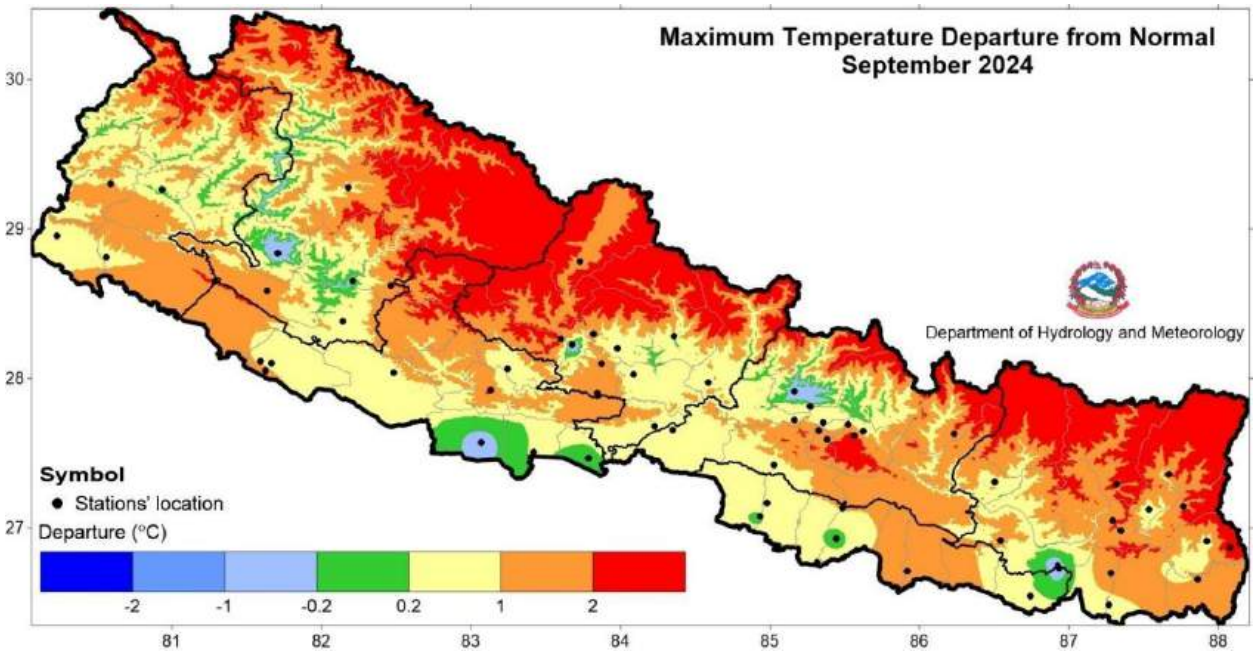

Figure 4.9.6: Departure from normal maximum temperature in September 2024.

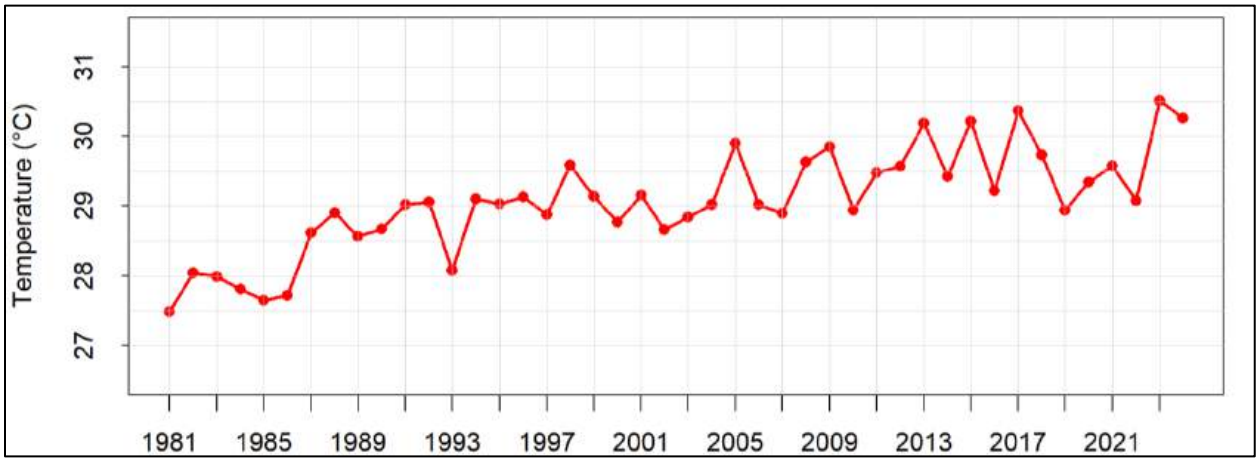

Figure 4.9.7: Interannual variability of all Nepal monthly average maximum temperature of September from 1981 to 2024 of 59 stations (average of 59 stations).

Minimum Temperature

The minimum temperature in the Terai remained above 24°C, reaching over 27°C in some areas (Figure 4.9.8). Most parts of the country recorded above normal minimum temperature, however a few isolated regions recorded normal to below normal minimum temperature (Figure 4.9.9).

Jaleshwor station of Mahottari district and Humde station of Manang district recorded the highest and lowest monthly average minimum temperature of 27.3°C and 8.3°C respectively. Similarly, the highest monthly anomaly of 3.3°C was recorded at Chainpur (East) station of Sankhuwasabha district and the lowest anomaly of -2.9°C was recorded at Tikapur station of Kailali district. The highest daily minimum temperature of 30.0°C was recorded at Jaleshwor station of Mahottari district on 8th September while the lowest daily minimum temperature of 0.5°C was recorded at Humde station of Manang district on 28th September. The country averaged minimum temperature in September 2024 was the highest since 1981 (Figure 4.9.10).

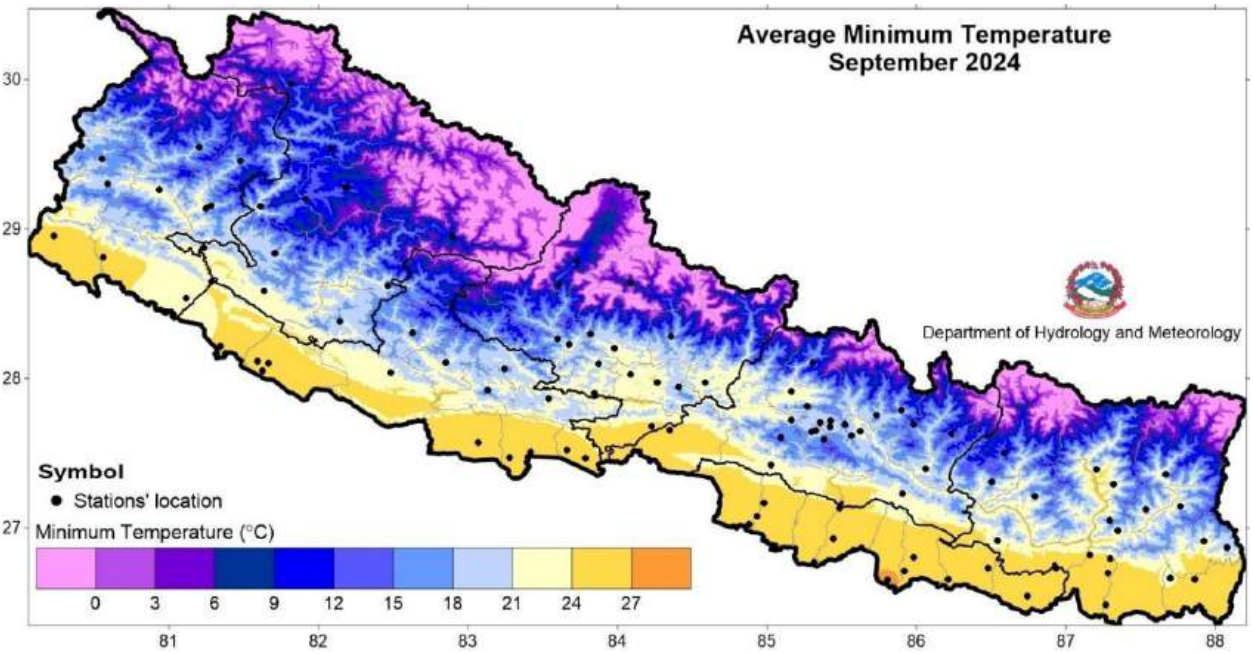

Figure 4.9.8: Minimum Temperature in September 2024.

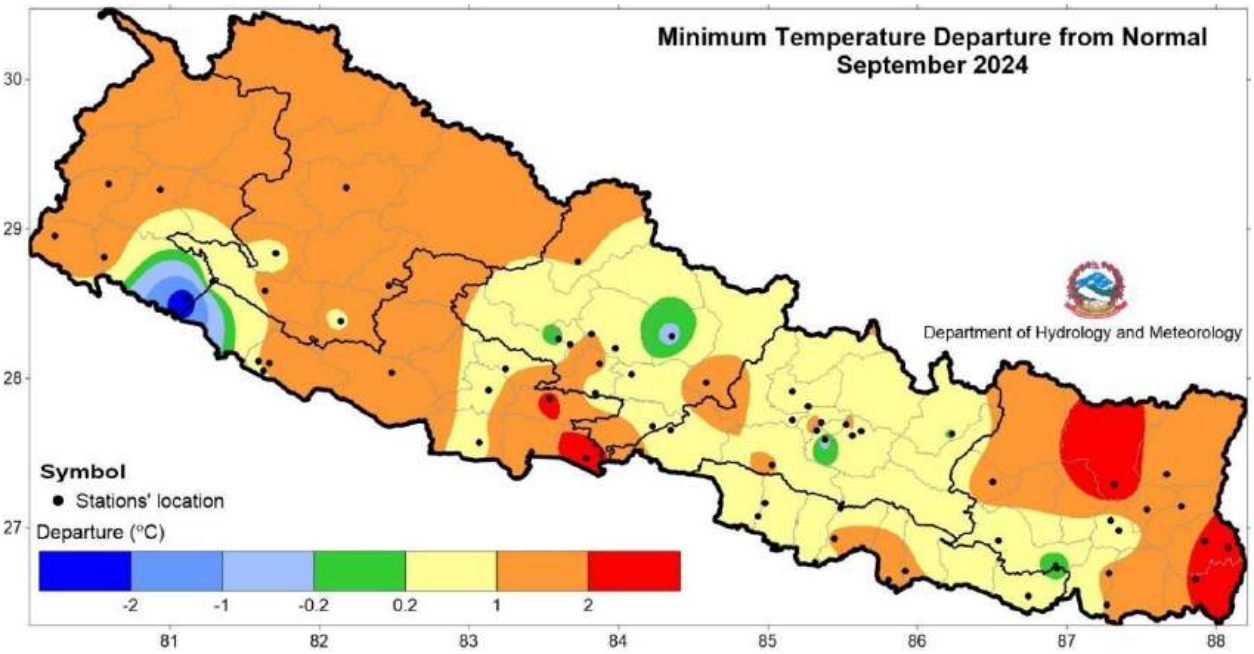

Figure 4.9.9: Departure from normal minimum temperature in September 2024.

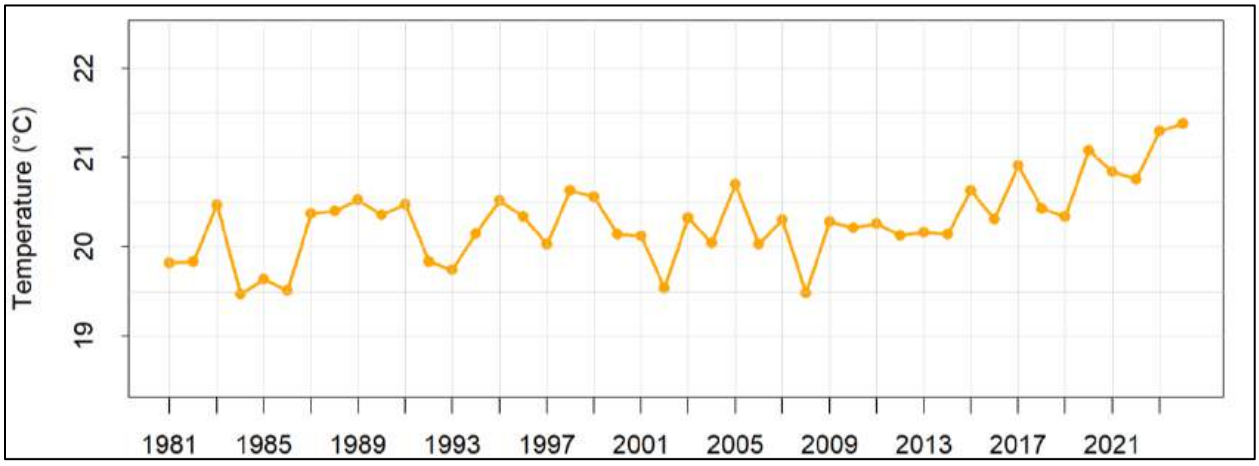

Figure 4.9.10: Interannual variability of all Nepal monthly average minimum temperature of September from 1981 to 2024 (average of 60 stations).

4.10 October

Highlights

Precipitation over the country as a whole was 75.9% of the normal indicating below normal precipitation. Most parts of Sudurpaschim Province and Karnali Province, and some parts of Lumbini Province, Gandaki Province, Bagamati Province and Madhesh Province faced extreme drought conditions in October. Maximum temperature was below normal over the central and western part of the country. Minimum temperature was below normal over the northern part of the country along with eastern part of Madhesh Province and south-western part of Koshi Province.

Synoptic Sequence

During the first week of the month, the influence of monsoonal winds and formation of cyclonic circulation over southwest Bangladesh affected the weather of the country. During the second week, western part of Nepal was influenced by western disturbance while the rest of the country experienced a weak monsoon. Nepal declared the withdrawal of Monsoon on 12th of October. The third and fourth week was influenced by Western disturbances.

Precipitation

Most parts of Koshi Province, south-eastern part of Bagamati Province and central part of Gandaki Province recorded precipitation higher than 50 mm, while northern part of Karnali Province and southern part of Sudurpaschim Province recorded precipitation below 10 mm (Figure 4.10.1). Below normal precipitation was recorded over most parts of the country. However, most parts of Koshi Province and isolated part of Bagamati Province, Gandaki Province and Lumbini Province recorded above normal precipitation (Figure 4.10.2).

Dharan Bazar station of Sunsari district recorded the highest monthly total precipitation of 341.2 mm with the highest percentage of normal of 288.4% in October. Based on the average of 90 stations (stations with normal precipitation data), Nepal received 75.9% of the normal precipitation. The highest daily precipitation of 118.3 mm was recorded at Chatara station of Sunsari district on 9th October.

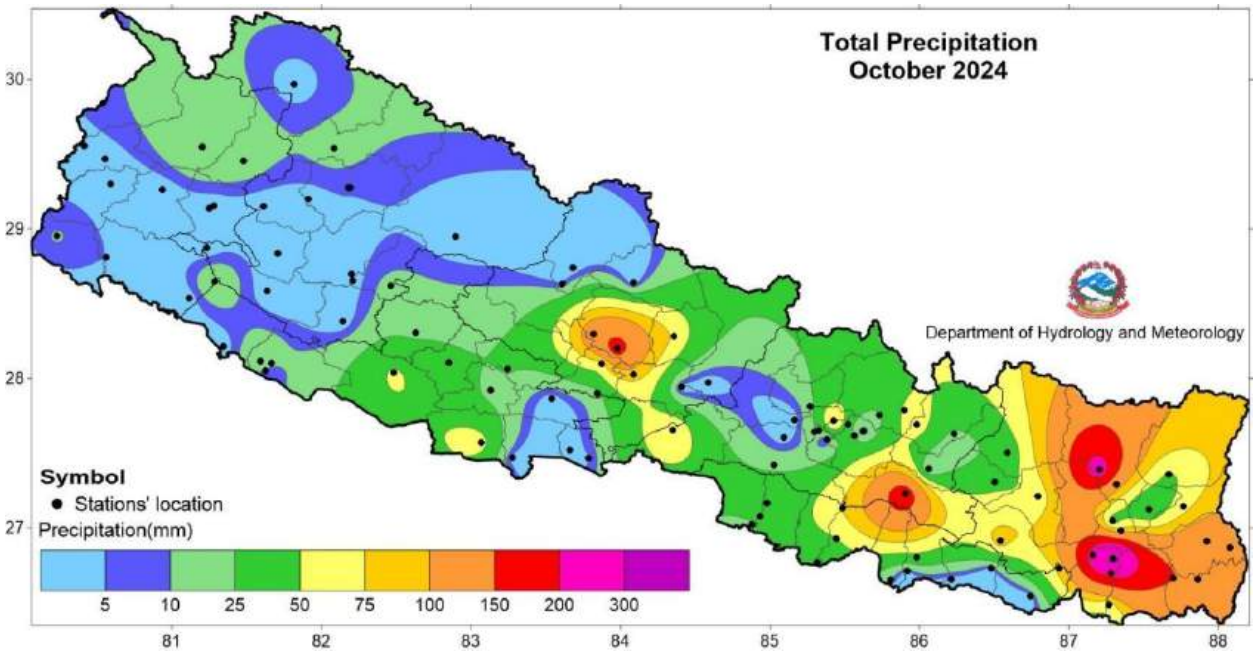

Figure 4.10.1: Total precipitation in October 2024.

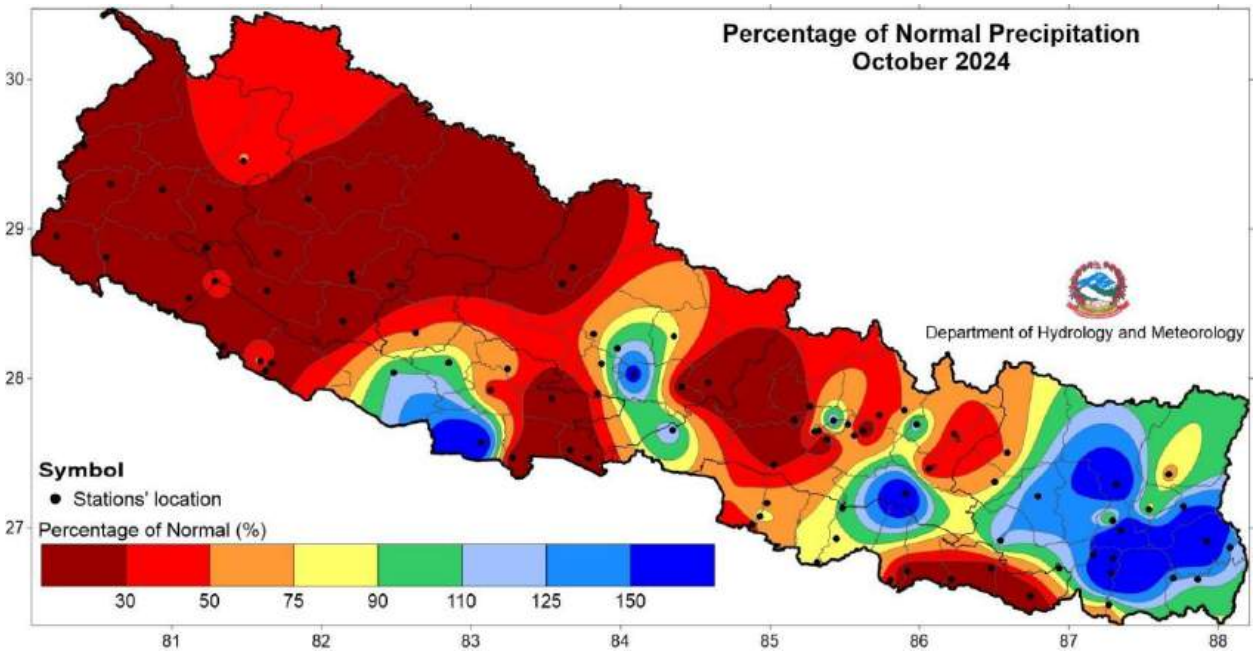

Figure 4.10.2: Percentage of normal precipitation in October 2024.

The country averaged total precipitation of October 2024 was lower than in 2022 and 2023 (Figure 4.10.3). The temporal distribution of all Nepal average daily cumulative of daily precipitation shows that precipitation remained near-normal in the first week of the month and below normal for the remaining of the period (Figure 4.10.4).

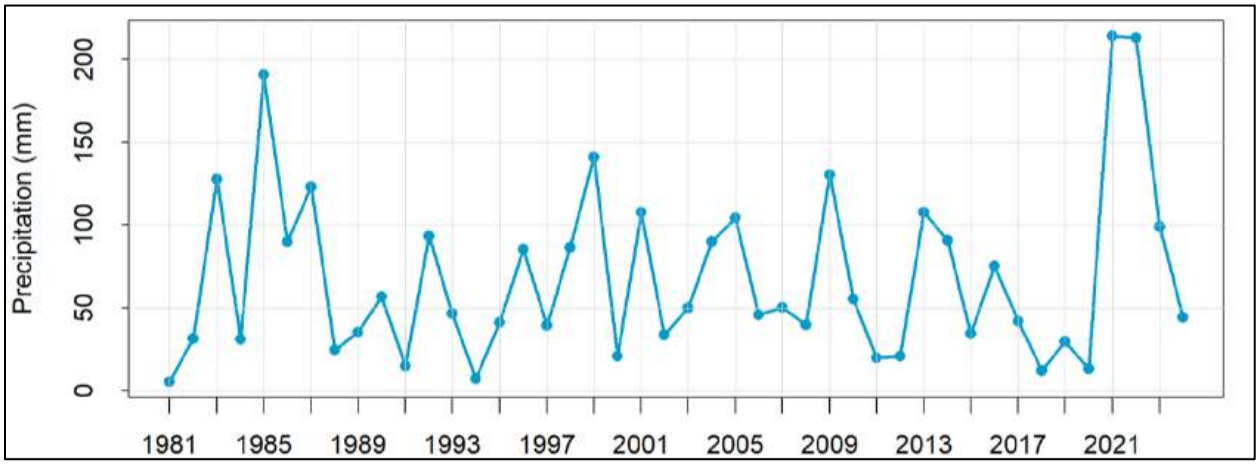

Figure 4.10.3: Interannual variability of all Nepal monthly total precipitation of October from 1981 to 2024 (average of 95 stations).

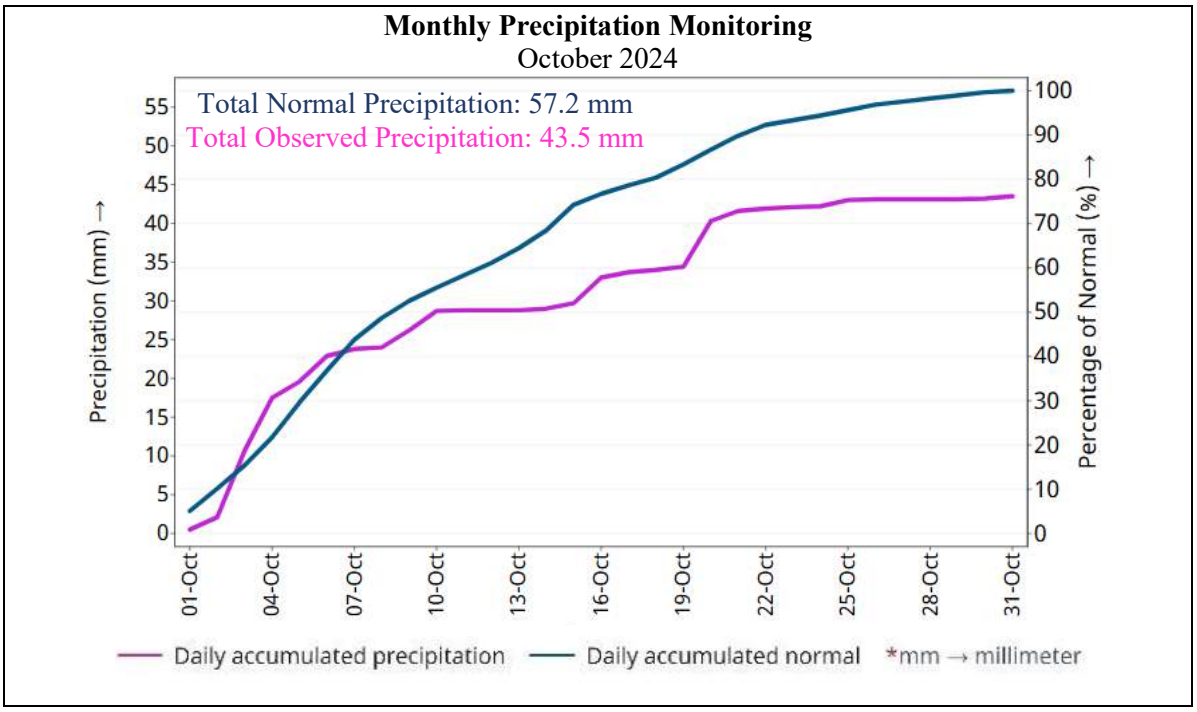

Figure 4.10.4: Cumulative all Nepal daily normal and observed precipitation during October 2024.

Maximum Temperature

Maximum temperature of Terai remained above 30°C, reaching over 33°C in some areas, while the northern part of the country recorded below 9°C (Figure 4.10.5). Northern part of Sudurpaschim Province, most part of Karnali Province, Lumbini Province and Gandaki Province, north-western part of Bagamati Province and southern part of Koshi Province recorded below normal maximum temperature while rest of the country recorded normal to above normal maximum temperature (Figure 4.10.6).

Janakpur airport station of Dhanusha district and Humde station of Manang district recorded the highest and lowest monthly average maximum temperature of 35.1°C and 16.5°C respectively. Similarly, the highest monthly anomaly of 4.0°C was recorded at Dhulikhel station of Kavrepalachok district and the lowest of -1.3°C was recorded at Ilam Tea Estate station of Ilam district. The highest daily maximum temperature of 37.0°C was recorded at Birgunj station of Parsa district on 8th October while the lowest daily maximum temperature of 14.0°C was recorded at Humde station of Manang district on 14th October. The country averaged maximum temperature in October 2024 was higher than in 2022 and 2023 (Figure 4.10.7).

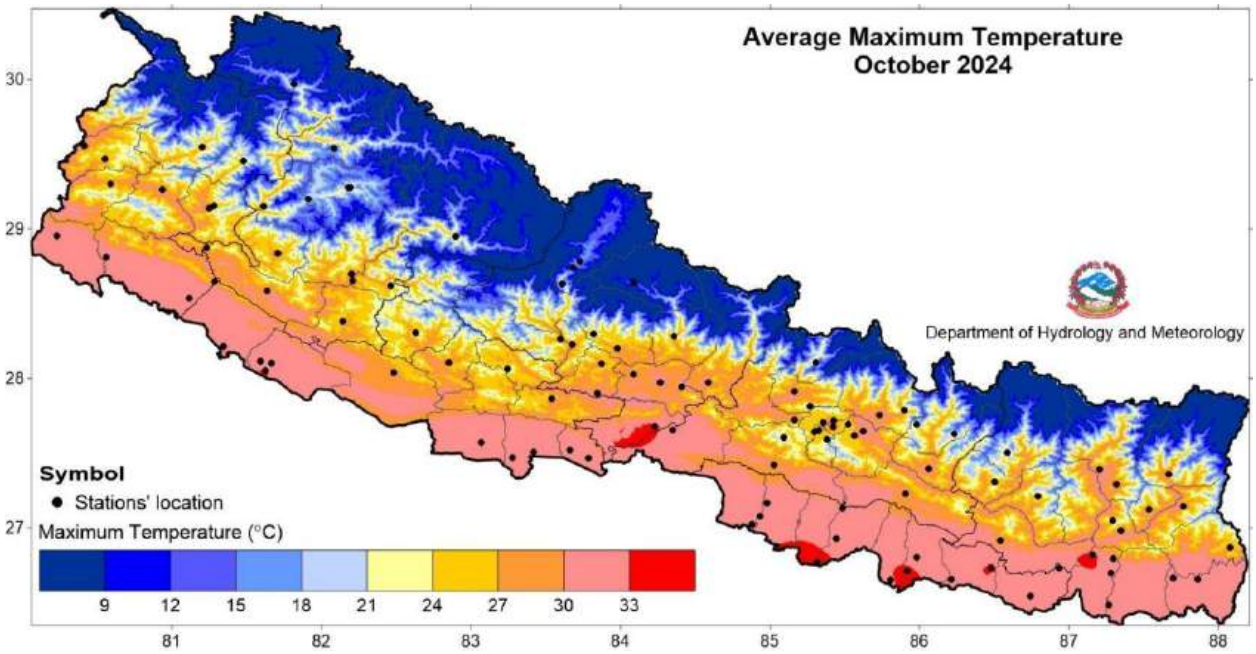

Figure 4.10.5: Maximum Temperature in October 2024.

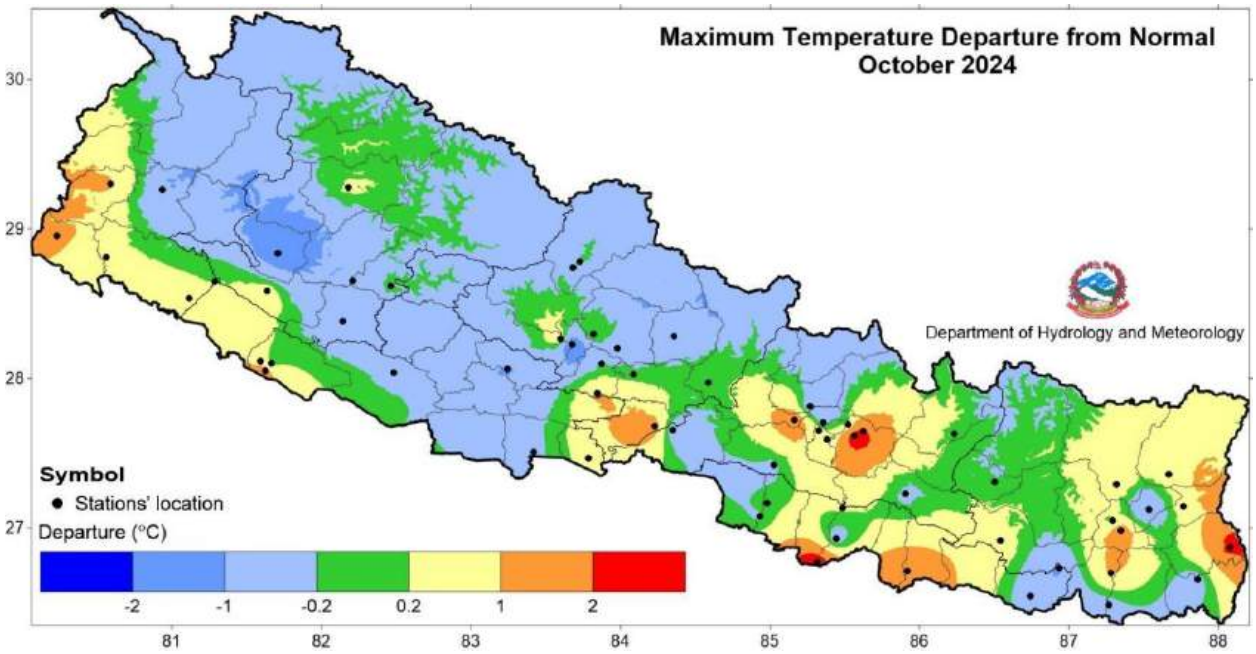

Figure 4.10.6: Departure from normal maximum temperature in October 2024.

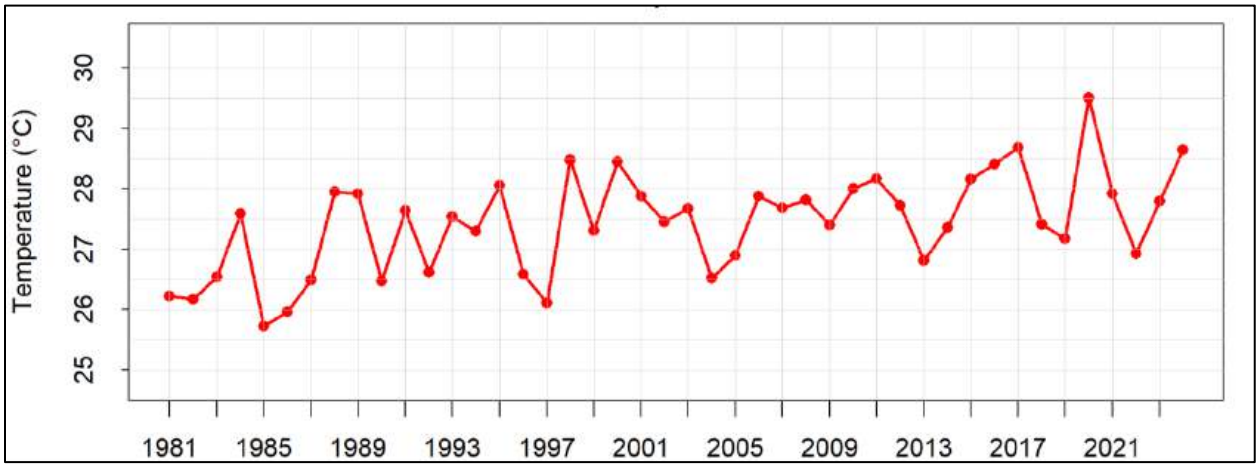

Figure 4.10.7: Interannual variability of all Nepal monthly average maximum temperature of October from 1981 to 2024 (average of 57 stations).

Minimum Temperature

The minimum temperature in the Terai remained above 18°C, reaching over 21°C in some areas of eastern Terai (Figure 4.10.8). Northern part of the country along with the eastern part of Madhesh Province and south-western part of Koshi Province recorded below normal minimum temperature while the rest of the country recorded normal to above-normal minimum temperature (Figure 4.10.9).

Jaleshwor station of Mahottari district and Humde station of Manang district recorded the highest and lowest monthly average minimum temperature of 24.8°C and 1.9°C respectively. Similarly, the highest monthly anomaly of 5.8°C was recorded at Chainpur (East) station of Sankhuwasabha district and the lowest anomaly of -1.7°C was recorded at Tikapur station of Kailali district. The highest daily minimum temperature of 28.5°C was recorded at Rampur station of Chitwan district on 8th October while the lowest daily minimum temperature of -2.0°C was recorded at Humde station of Manang district on 24th October. The country averaged minimum temperature in October 2024 was the highest since 1981 (Figure 4.10.10).

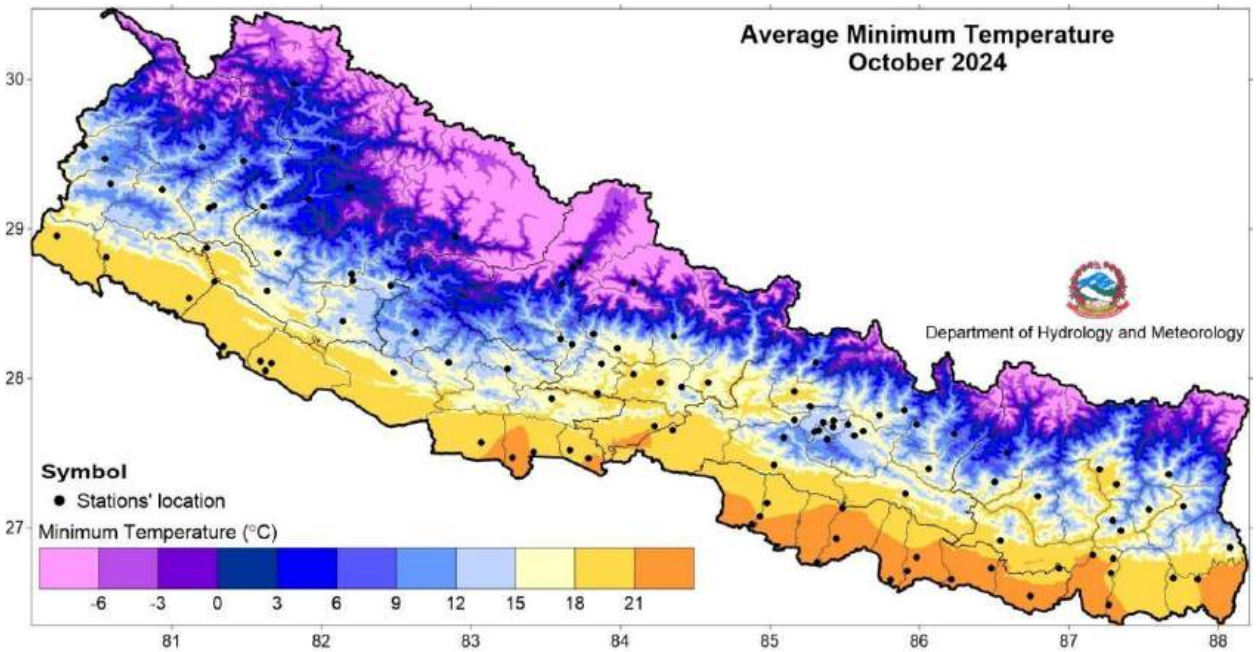

Figure 4.10.8: Minimum Temperature in October 2024.

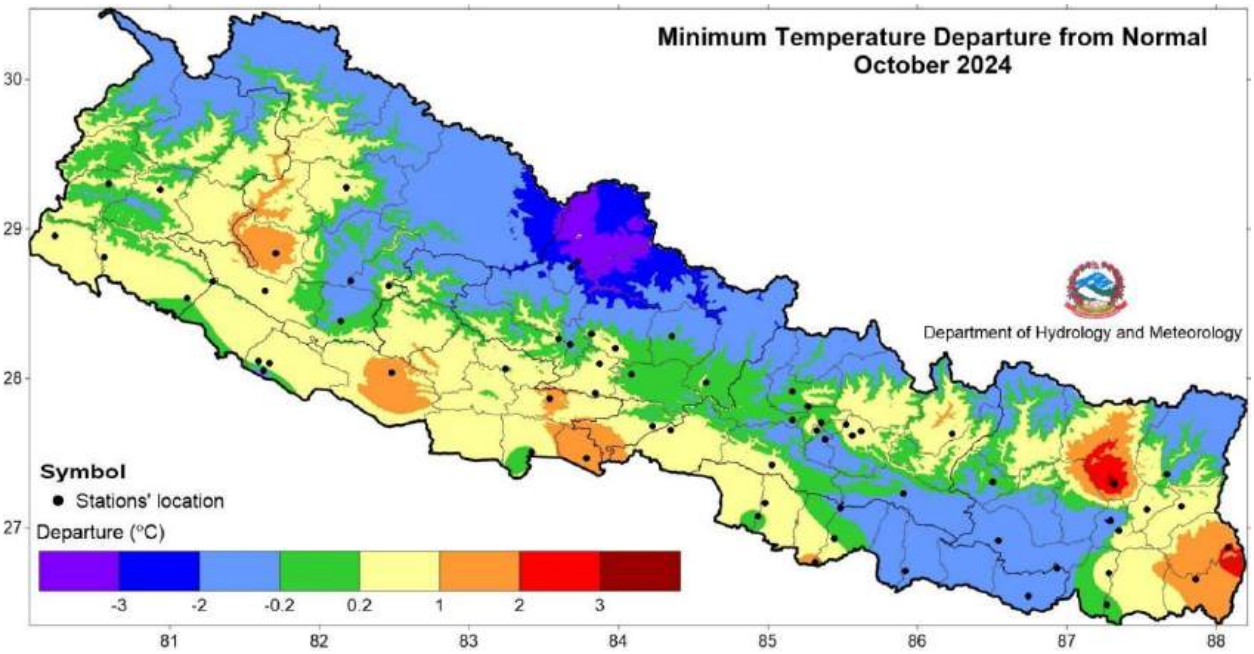

Figure 4.10.9: Departure from normal minimum temperature in October 2024.

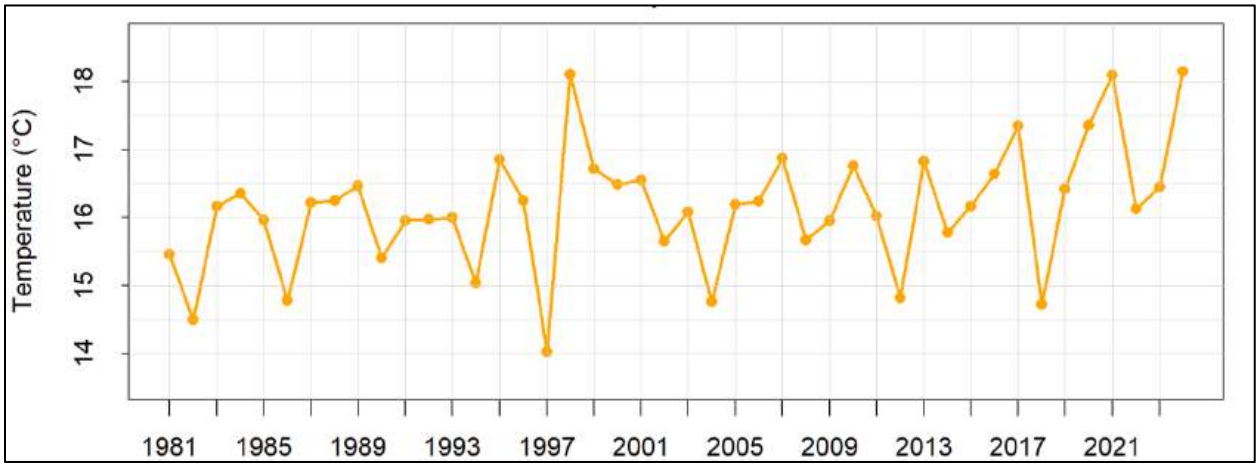

Figure 4.10.10: Interannual variability of all Nepal monthly average minimum temperature of October from 1981 to 2024 (average of 57 stations).

4.11 November

Highlights

Precipitation over the country as a whole was 141.4% of the normal indicating above normal precipitation. Above normal maximum temperature was observed over most parts of the country. Below normal minimum temperature was observed over the northern part of the country while the rest of the country recorded normal to above normal minimum temperature.

Synoptic Sequence

A number of western disturbances affected the weather of the country.

Precipitation

Central part of Gandaki Province and isolated part over Bagamati Province and Karnali Province recorded precipitation higher than 30 mm (Figure 4.11.1). Most parts of the Koshi Province, Madhesh Province, Lumbini Province, Karnali Province and Sudurpaschim Province received less than 10 mm of precipitation. Most parts of Bagamati Province, Gandaki Province and Lumbini Province, eastern part of Madhesh

Province and few areas over Sudurpaschim Province recorded above normal precipitation while remaining parts of the country recorded below normal precipitation (Figure 4.11.2).

Baglung station of Baglung district recorded the highest monthly total precipitation of 87.6 mm. Damauli station of Tanahun district recorded the highest percentage of normal of 1488.89%. Based on the average of 100 stations (stations with normal precipitation data), Nepal received 141.4% of the normal precipitation. The highest daily precipitation of 67.0 mm was recorded at Damauli station of Tanahun district on 5th November. The temporal distribution of all Nepal average daily cumulative of daily precipitation shows that precipitation remained near-normal in the first three days of the month and above normal for the remaining of the period (Figure 4.11.3). The country averaged total precipitation of November 2024 was the highest since 2012 (Figure 4.11.4).

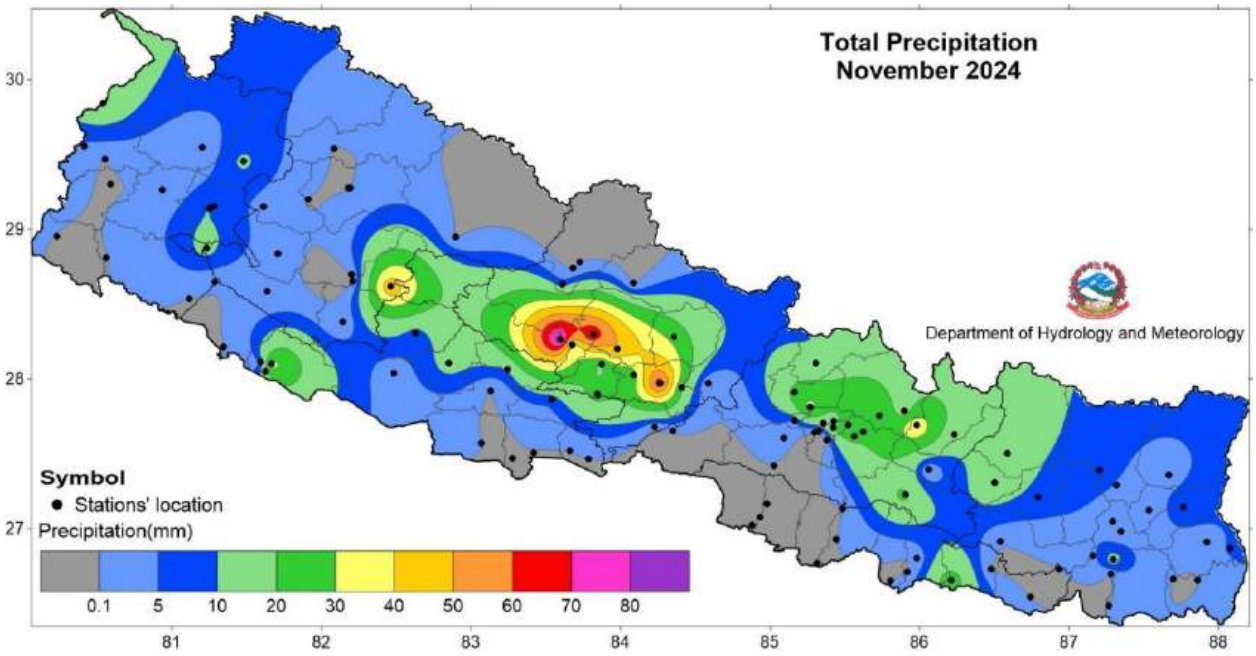

Figure 4.11.1: Total precipitation in November 2024.

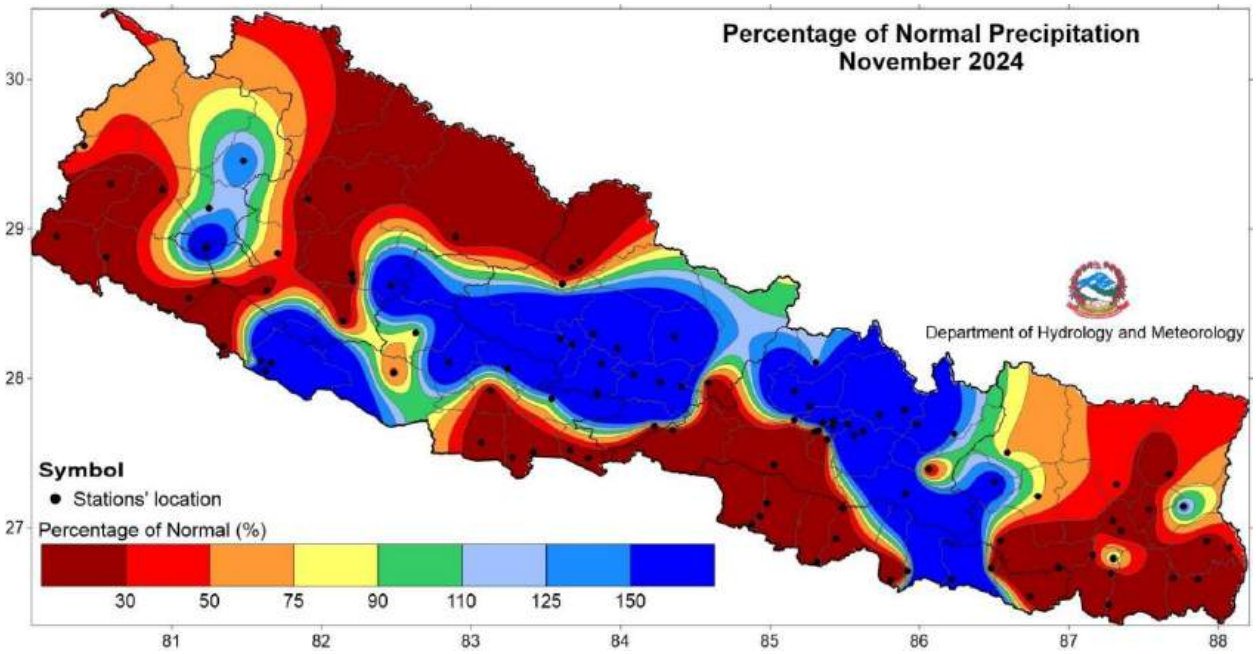

Figure 4.11.2: Percentage of normal precipitation in November 2024.

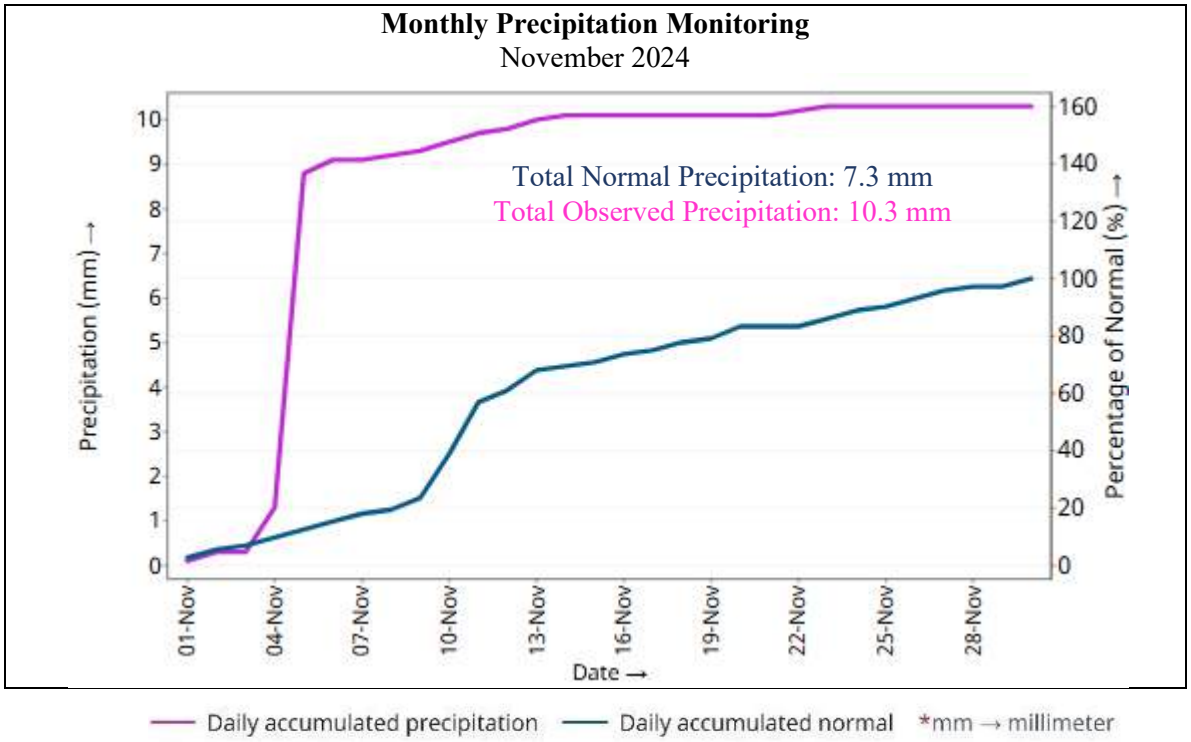

Figure 4.11.3: Cumulative all Nepal daily normal and observed precipitation during November 2024.

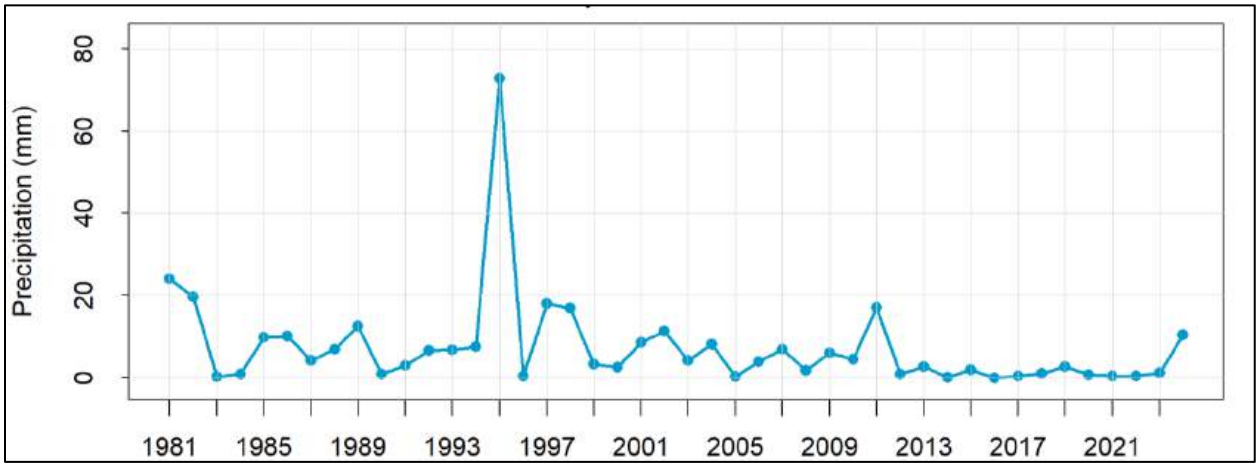

Figure 4.11.4: Interannual variability of all Nepal monthly total precipitation of November from 1981 to 2024 of 97 stations (average of 97 stations).

Maximum Temperature

Maximum temperature of Terai remained above 27°C, reaching over 30°C in Madhesh Province and southern part of Koshi Province (Figure 4.11.5). Most parts of the country recorded above normal maximum temperature while a few parts of Karnali Province and Sudurpaschim Province recorded below normal maximum temperature (Figure 4.11.6).

Janakpur airport station of Dhanusha district and Humde station of Manang district recorded the highest and lowest monthly average maximum temperature of 32.0°C and 11.4°C respectively. Similarly, the highest monthly anomaly of 3.0°C was recorded at Dhulikhel station of Kavrepalanchok district and the lowest of -1.6°C was recorded at Kushma station of Parbat district. The highest daily maximum temperature of 36.3°C was recorded at Janakpur station of Dhanusha district on 6th November while the lowest daily

maximum temperature of 6.4°C was recorded at Humde station of Manang district on 23rd November. The country averaged maximum temperature in November 2024 was lower than in 2023 and higher than in 2022 (Figure 4.11.7).

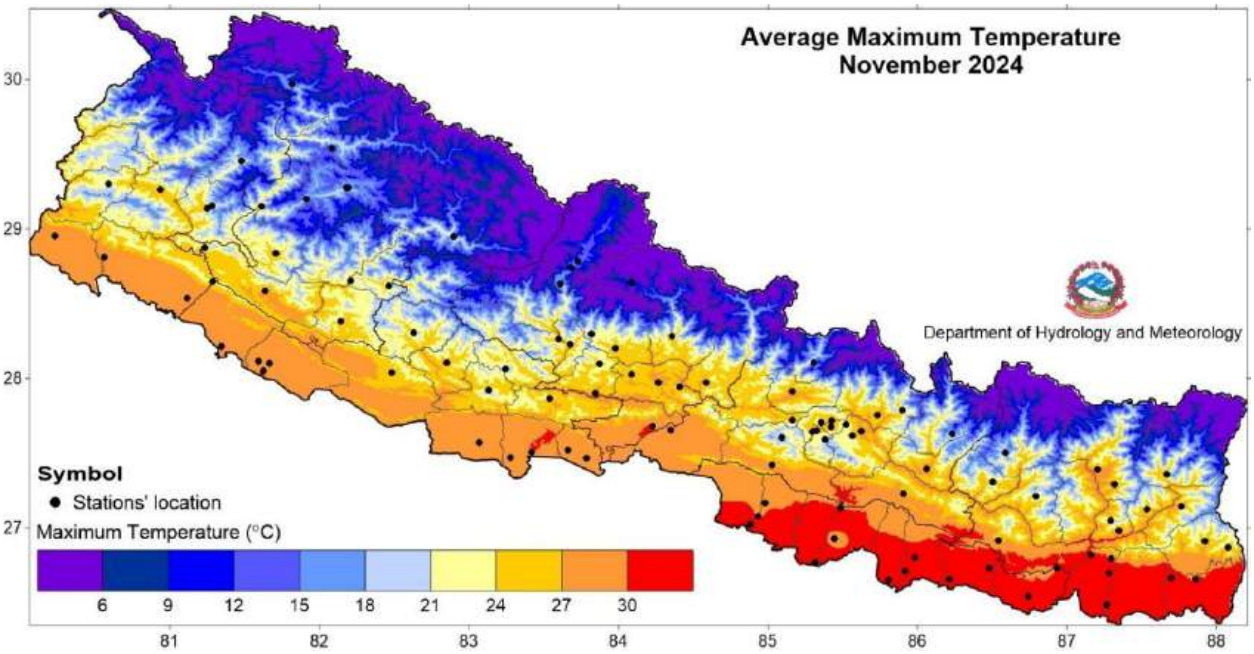

Figure 4.11.5: Maximum Temperature in November 2024.

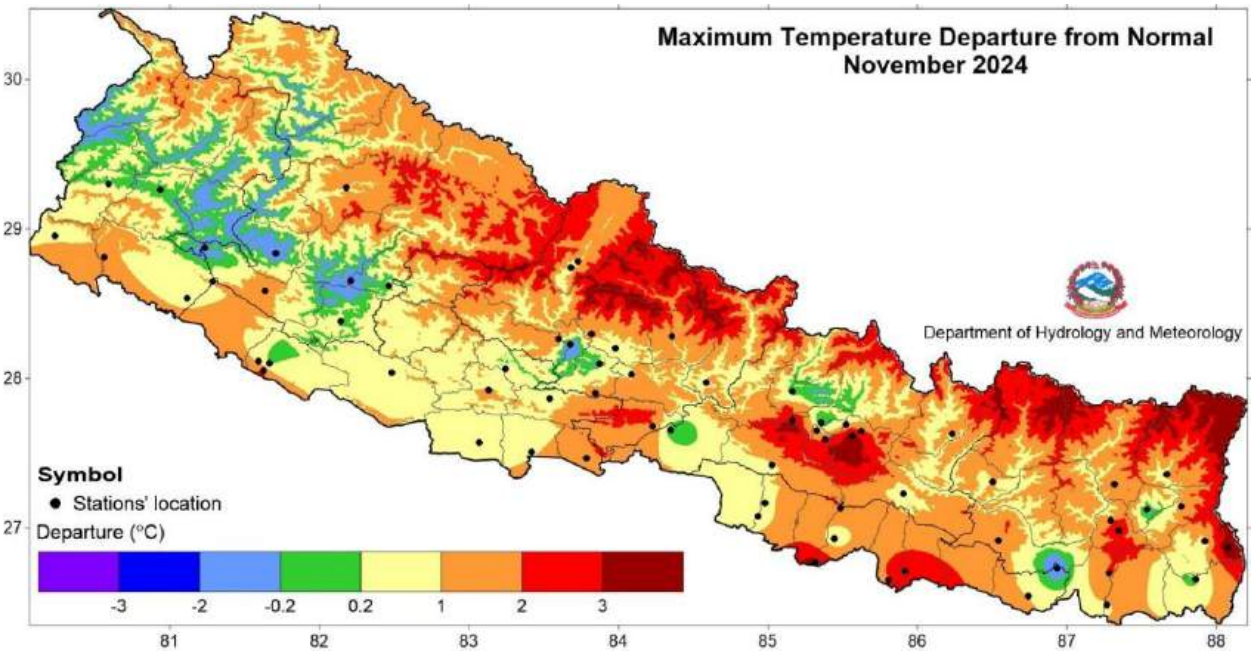

Figure 4.11.6: Departure from normal maximum temperature in November 2024.

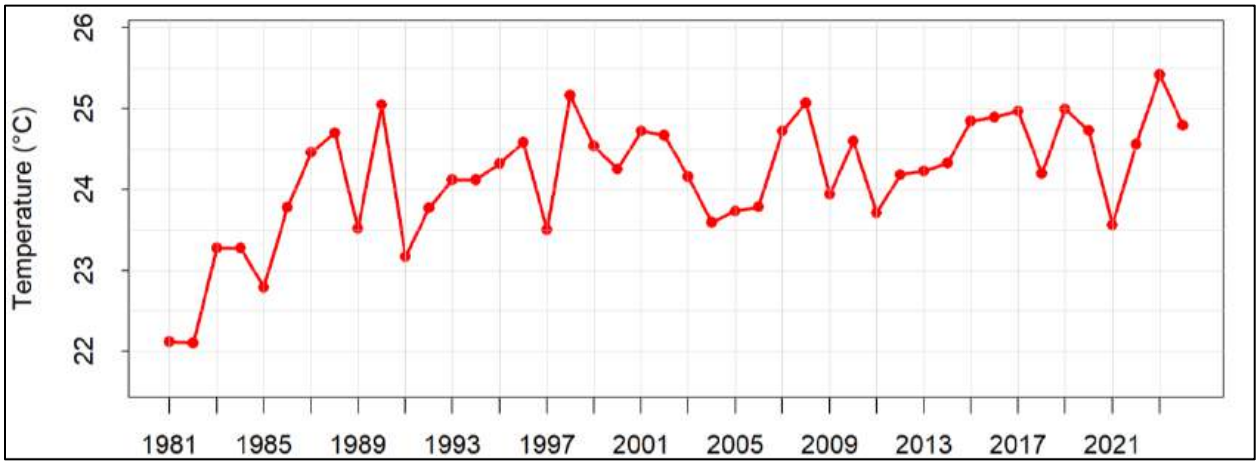

Figure 4.11.7: Interannual variability of all Nepal monthly average maximum temperature of November from 1981 to 2024 (average of 60 stations).

Minimum Temperature

Central and eastern Terai remained warmer than western Terai, with minimum temperature exceeding 15°C (Figure 4.11.8). Northern part of the country recorded below normal minimum temperature while rest of the country recorded normal to above-normal minimum temperature (Figure 4.11.9).

Jaleshwor station of Mahottari district and Humde station of Manang district recorded the highest and lowest monthly average minimum temperature of 19.4°C and -2.9°C respectively. Similarly, the highest monthly anomaly of 3.8°C was recorded at Chainpur (East) station of Sankhuwasabha district and the lowest anomaly of -2.3°C was recorded at Tikapur station of Kailali district. The highest daily minimum temperature of 25.0°C was recorded at Jaleshwor station of Mahottari district on 1st November while the lowest daily minimum temperature of -8.2°C was recorded at Humde station of Manang district on 24th November. The country averaged minimum temperature in November 2024 was higher since 2020 (Figure 4.11.10).

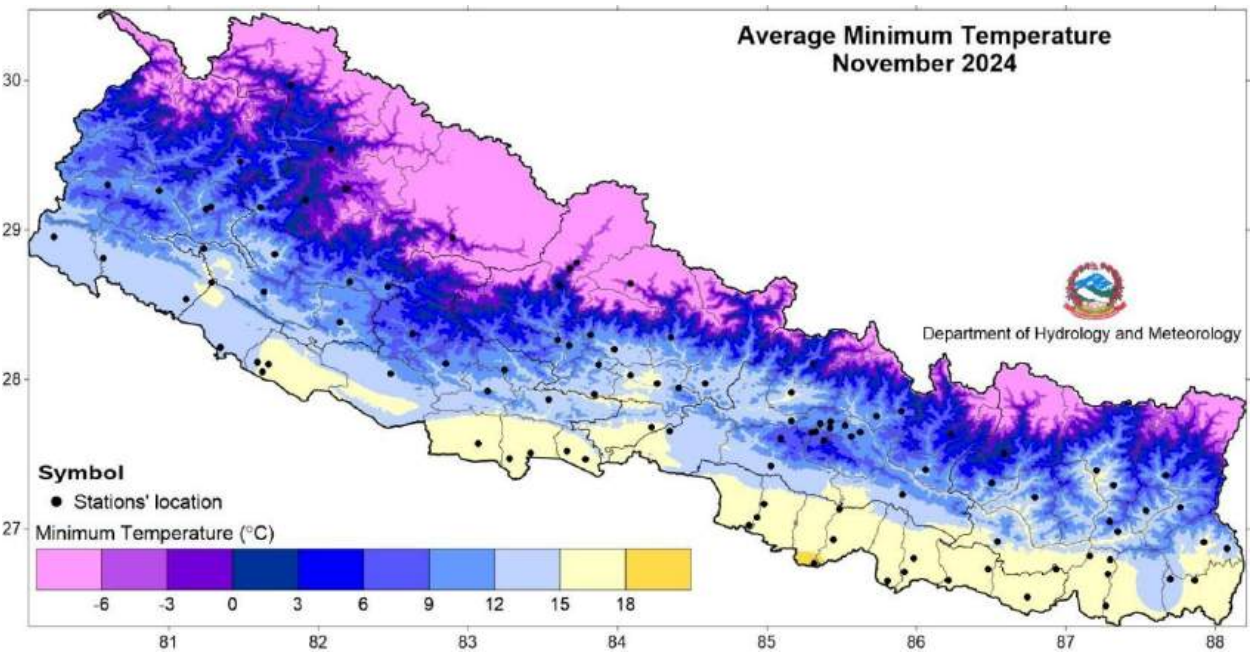

Figure 4.11.8: Minimum Temperature in November 2024.

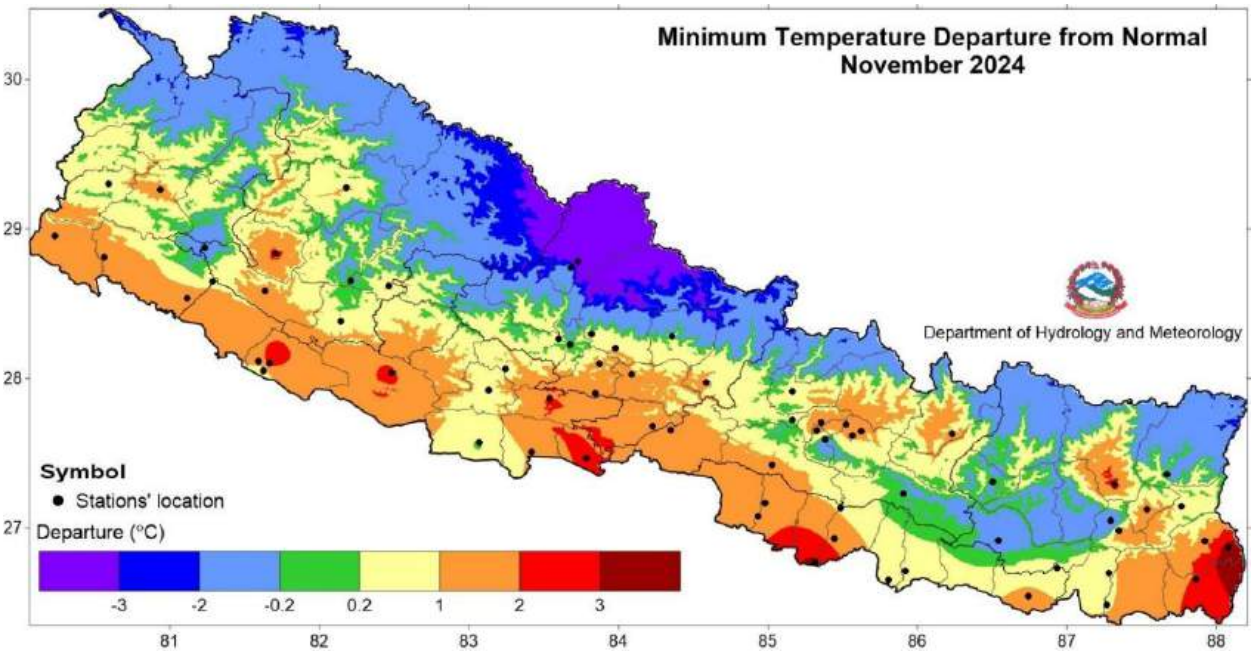

Figure 4.11.9: Departure from normal minimum temperature in November 2024.

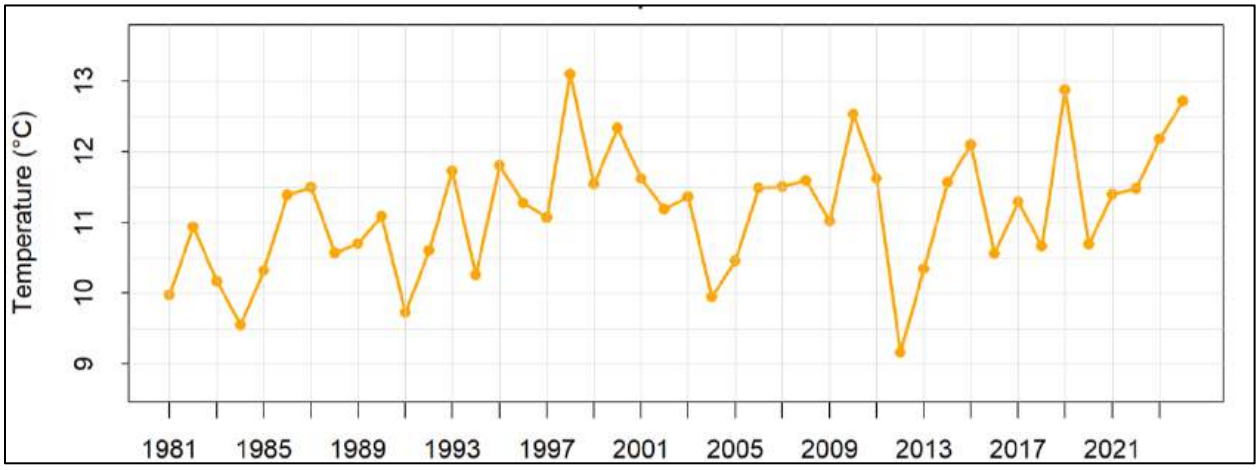

Figure 4.11.10: Interannual variability of all Nepal monthly average minimum temperature of November from 1981 to 2024 (average of 58 stations).

4.12 December

Highlights

Precipitation over the country as a whole was 22.8% of the normal indicating below normal precipitation. Above normal maximum temperature and below normal minimum temperature was observed over most parts of the country.

Synoptic Sequence

A number of western disturbances affected the weather of the country.

Precipitation

Most part of Sudurpaschim Province, and few areas over Karnali Province recorded above normal precipitation (Figure 4.12.2Figure 4.12.1). A few parts of Lumbini Province, Gandaki Province and Bagamati Province recorded below normal precipitation.

Manma station of Kalikot district recorded the highest monthly total precipitation of 37.1 mm. Bajura (Martadi) station of Bajura district recorded the highest percentage of normal of 218.9%. Based on the average of 96 stations (stations with normal precipitation data), Nepal received 22.8% of the normal

precipitation. The highest daily precipitation of 18.6 mm was recorded at Oli Gaun station of Achham district on 28th December.

The temporal distribution of all Nepal average daily cumulative of daily precipitation shows that precipitation remained below normal for the whole month (Figure 4.12.3). The country averaged total precipitation of December 2024 was lower than in December 2023 (Figure 4.12.4).

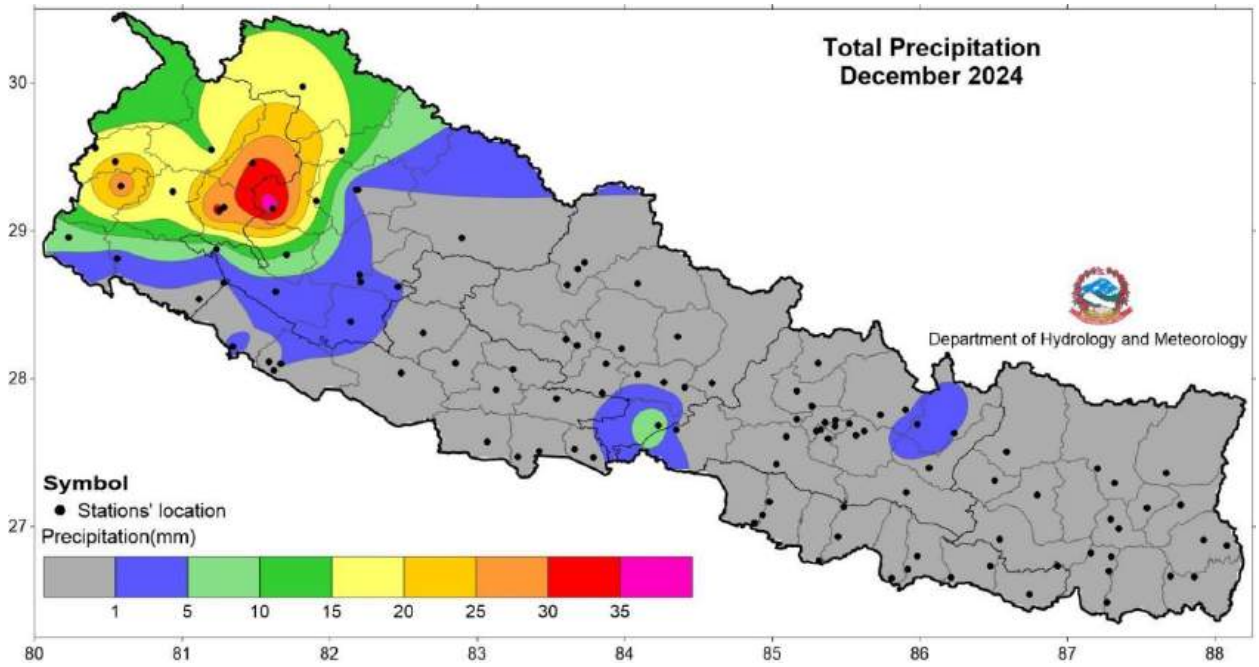

Figure 4.12.1: Total precipitation in December 2024.

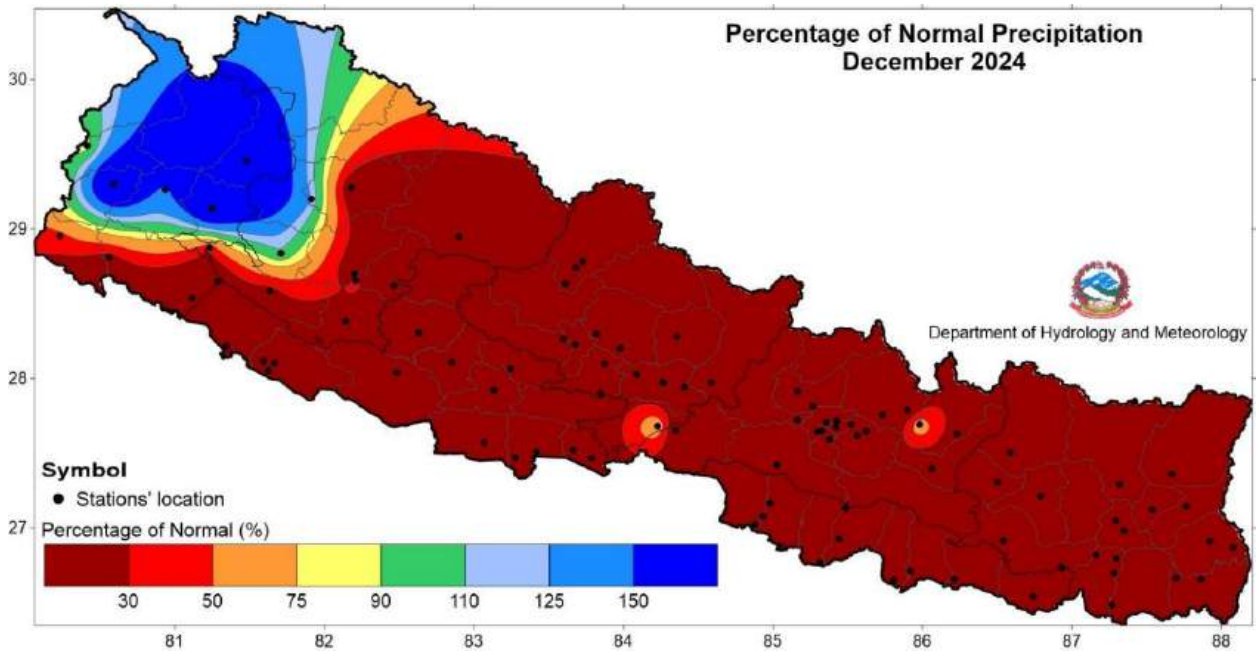

Figure 4.12.2: Percentage of normal precipitation in December 2024.

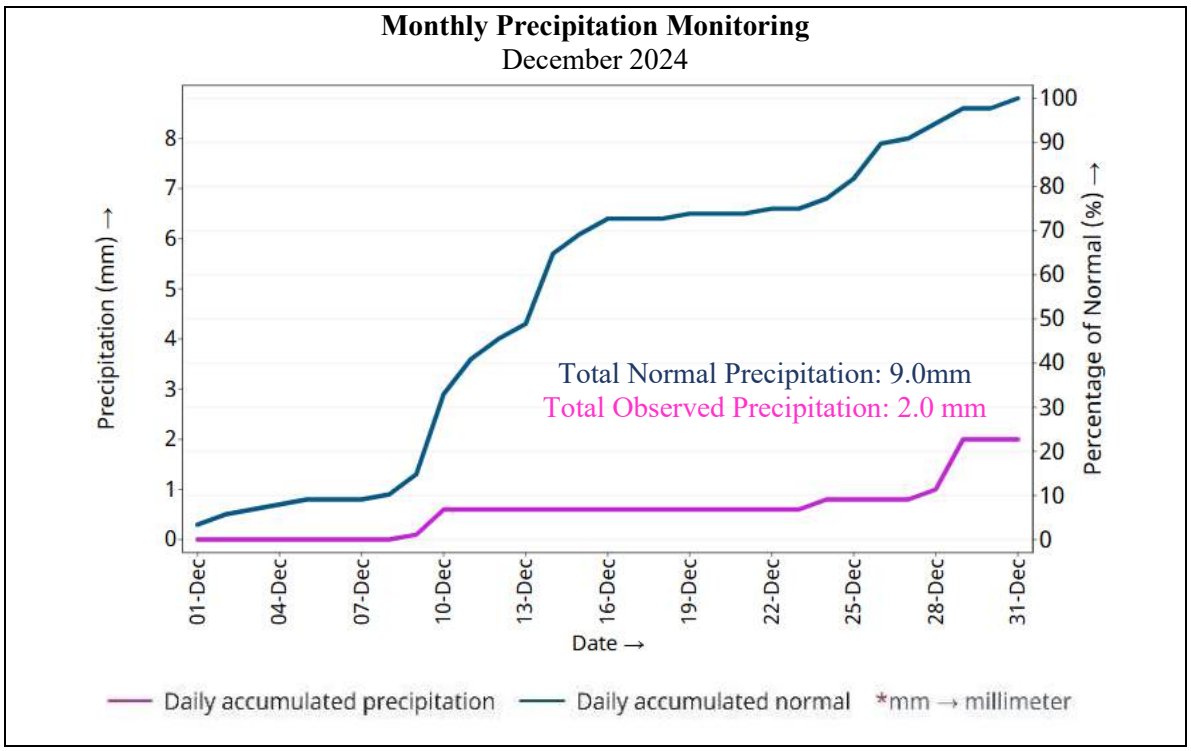

Figure 4.12.3: Cumulative all Nepal daily normal and observed precipitation during December 2024.

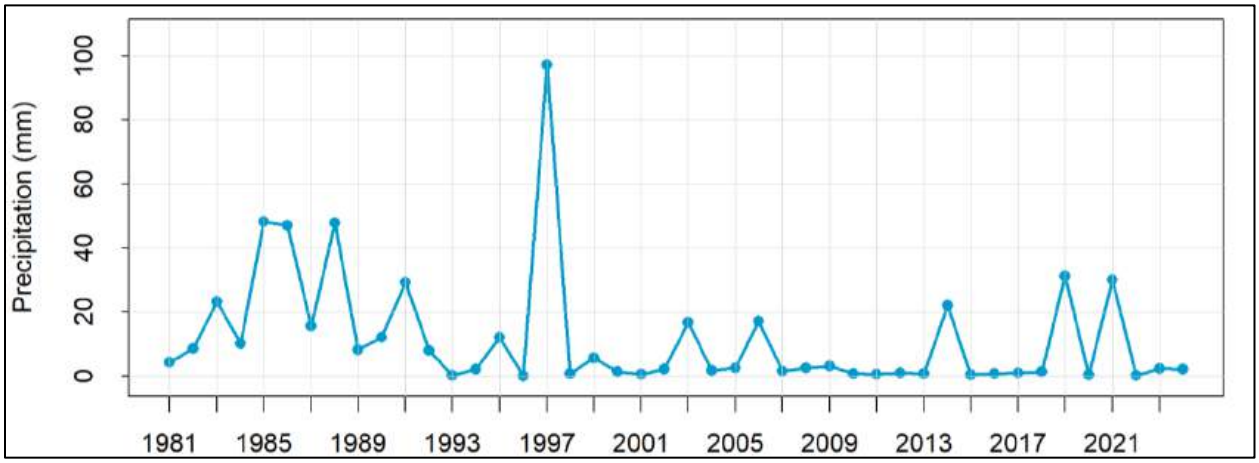

Figure 4.12.4: Interannual variability of all Nepal monthly total precipitation of December from 1981 to 2024 (average of 96 stations).

Maximum Temperature

Maximum temperature of Terai remained above 24°C, reaching over 27°C in the isolated part of Madhesh Province and Koshi Province (Figure 4.12.5). Most parts of the country recorded above normal maximum temperature while isolated parts of Sudurpaschim Province, Karnali Province, Gandaki Province and Bagamati Province recorded below normal maximum temperature (Figure 4.12.6).

Janakpur airport station of Dhanusha district and Humde station of Manang district recorded the highest and lowest monthly average maximum temperature of 28.5°C and 9.0°C respectively. Similarly, the highest monthly anomaly of 3.9°C was recorded at Janakpur airport station of Dhanusha district and the lowest of -2.2°C was recorded at Dailekh station of Dailekh district. The highest daily maximum temperature of 31.5°C was recorded at Janakpur station of Dhanusha district on 15th December while the lowest daily maximum temperature of 1.5°C was recorded at Humde station of Manang district on 8th December. The country averaged maximum temperature in December 2024 was lower than in 2023 (Figure 4.12.7).

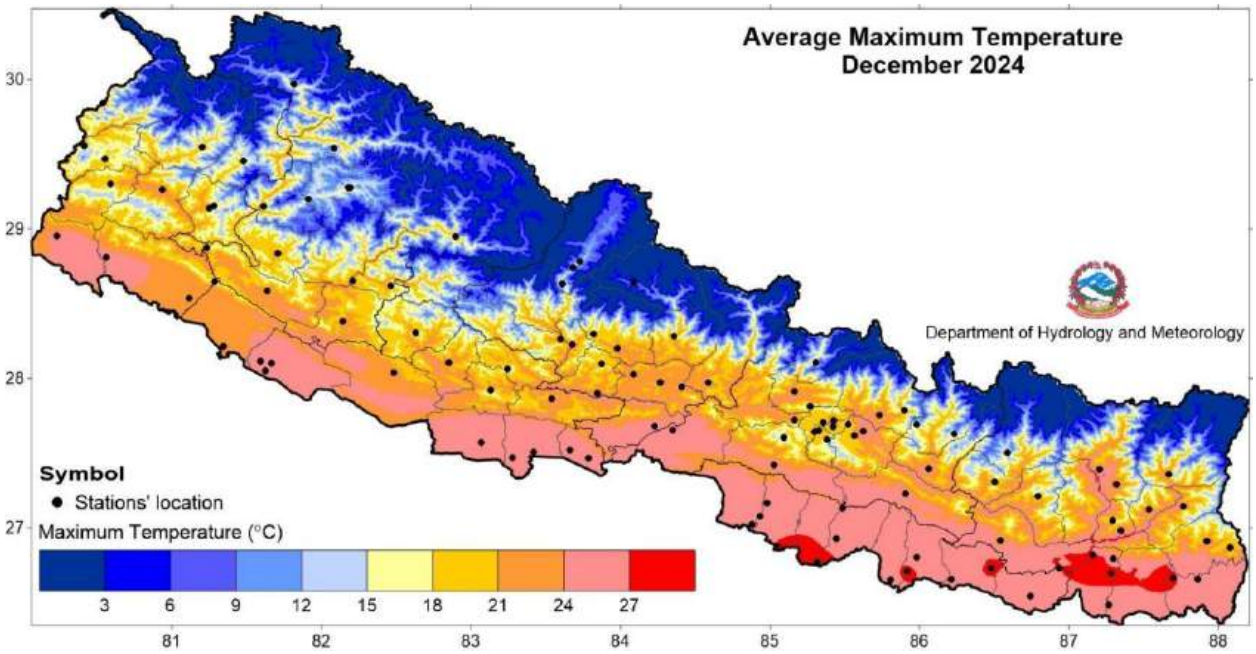

Figure 4.12.5: Maximum Temperature in December 2024.

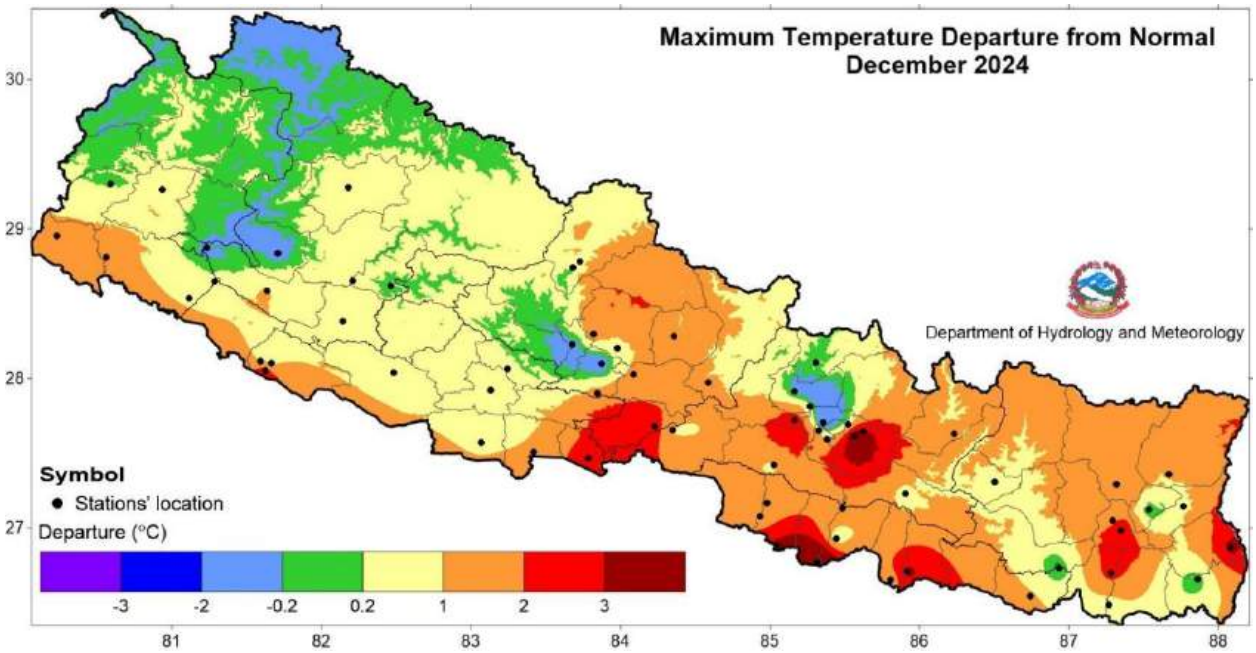

Figure 4.12.6: Departure from normal maximum temperature in December 2024.

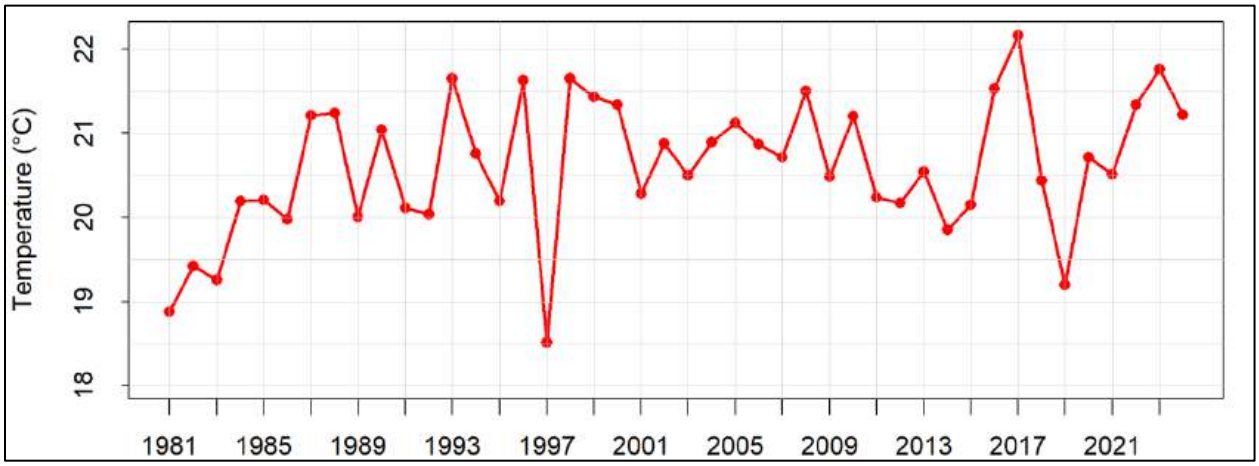

Figure 4.12.7: Monthly average maximum temperature of December from 1981 to 2024 of 57 stations (average of monthly average maximum temperature at stations having long term data).

Minimum Temperature

Minimum temperature of Terai remained above 9°C, reaching over 12°C in isolated areas of Madhesh Province and Koshi Province (Figure 4.12.8). Karnali Province, most part of Sudurpaschim Province, Gandaki Province, Bagamati Province, few parts across Madhesh Province and Koshi Province recorded below normal minimum temperature while the rest of the country recorded normal to above normal temperature (Figure 4.12.9).

Siraha station of Siraha district and Humde station of Manang district recorded the highest and lowest monthly average minimum temperature of 14.1°C and -6.7°C respectively. Similarly, the highest monthly anomaly of 2.8°C was recorded at Chainpur (East) station of Sankhuwasabha district and the lowest anomaly of -4.6°C was recorded at Tikapur station of Kailali district. The highest daily minimum temperature of 16.0°C was recorded at Jaleshwor station of Mahottari district on 30th December while the lowest daily minimum temperature of -11.0°C was recorded at Humde station of Manang district on 10th December. The country averaged minimum temperature in December 2024 was lowest since 2021 (Figure 4.12.10).

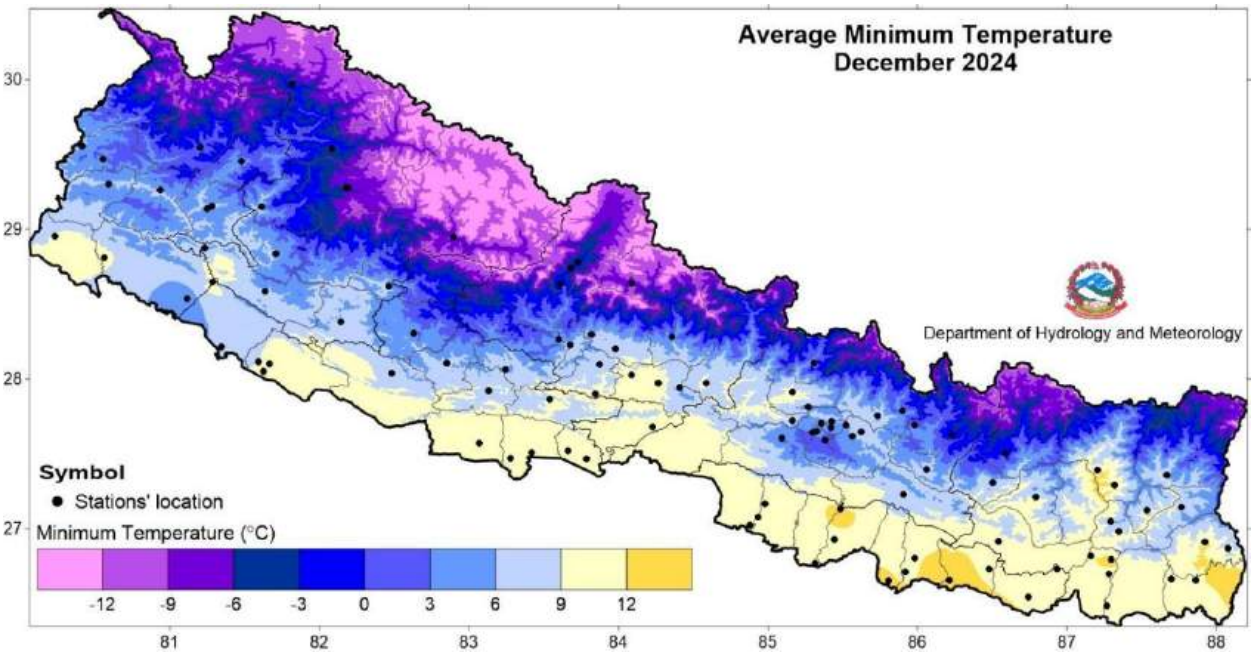

Figure 4.12.8: Minimum Temperature in December 2024.

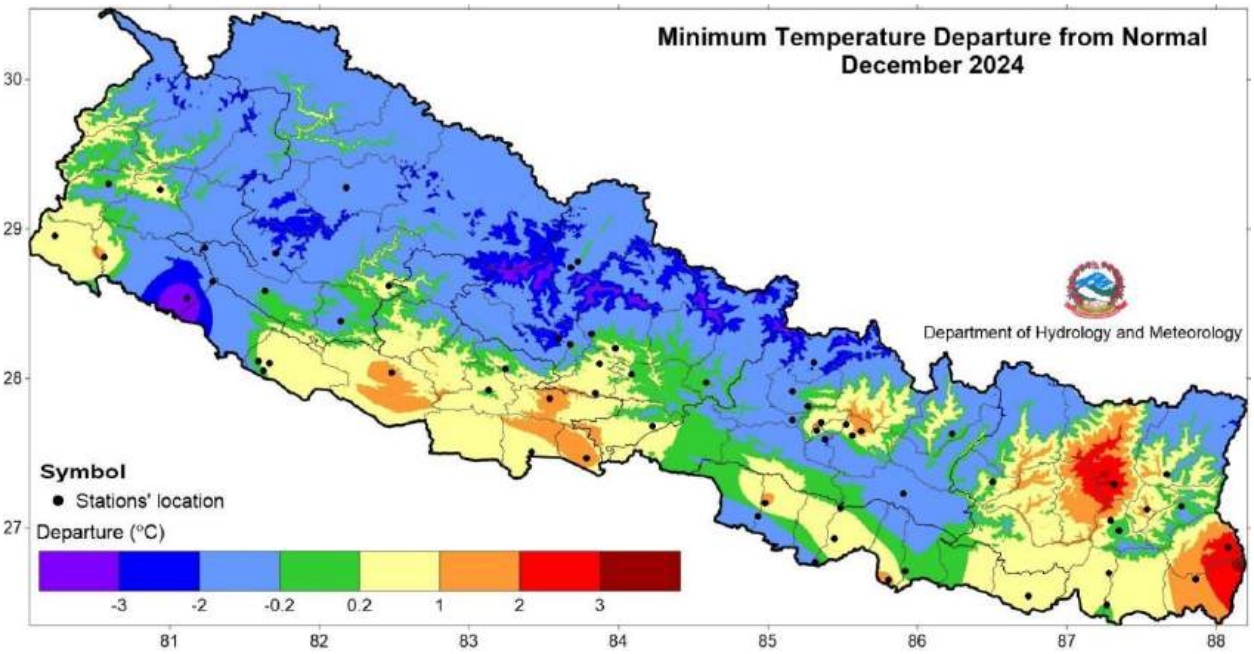

Figure 4.12.9: Departure from normal minimum temperature in December 2024.

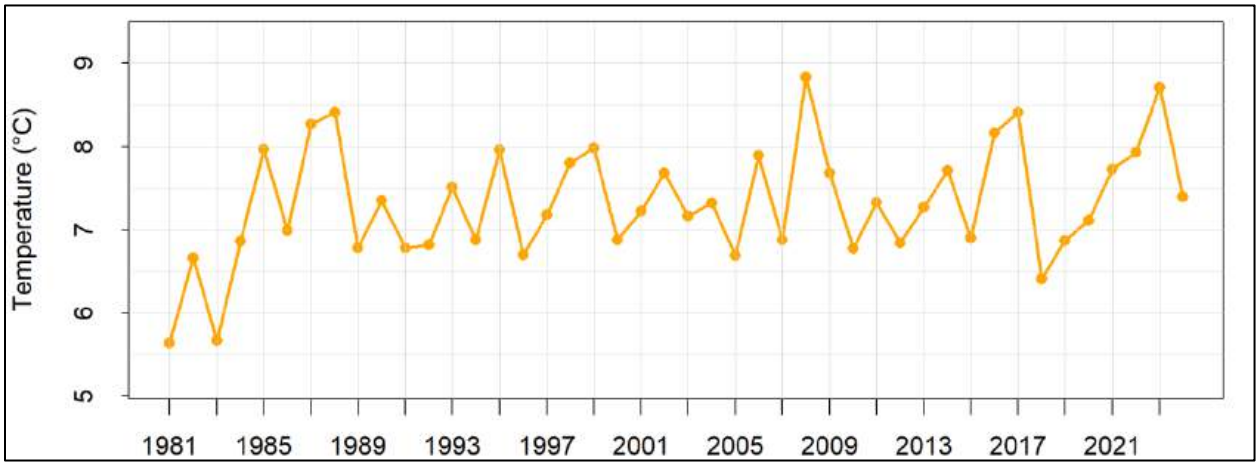

Figure 4.12.10: Interannual variability of all Nepal monthly average minimum temperature of December from 1981 to 2024 (average of 56 stations).

5. Major Extreme Events and Climate-Related Disasters

5.1 Heavy Precipitation events

a) Heavy Precipitation event in Kanchanpur District on 8th July 2024

An unpredictably heavy precipitation in southwestern part of Sudurpaschim Province (Kanchanpur district) was observed on 8th July 2024. The 24-hour accumulated precipitation recorded at 8:45 A.M. on July 8 at Dodhara Precipitation station was 624.0mm, Hanuman Nagar station was 573.6mm and Sundarpur station was 555.8mm (Figure 5.1.1). Hourly precipitation of 10 minutes moving sum of 3 stations at Sundarpur, Hanuman Nagar and Dodhara rainfall stations which shows peak precipitation of 102.0 mm in Hanuman nagar which was observed between 07/07/2024 22:05:00 and 07/07/2024 23:05:00 (Figure 5.1.2).

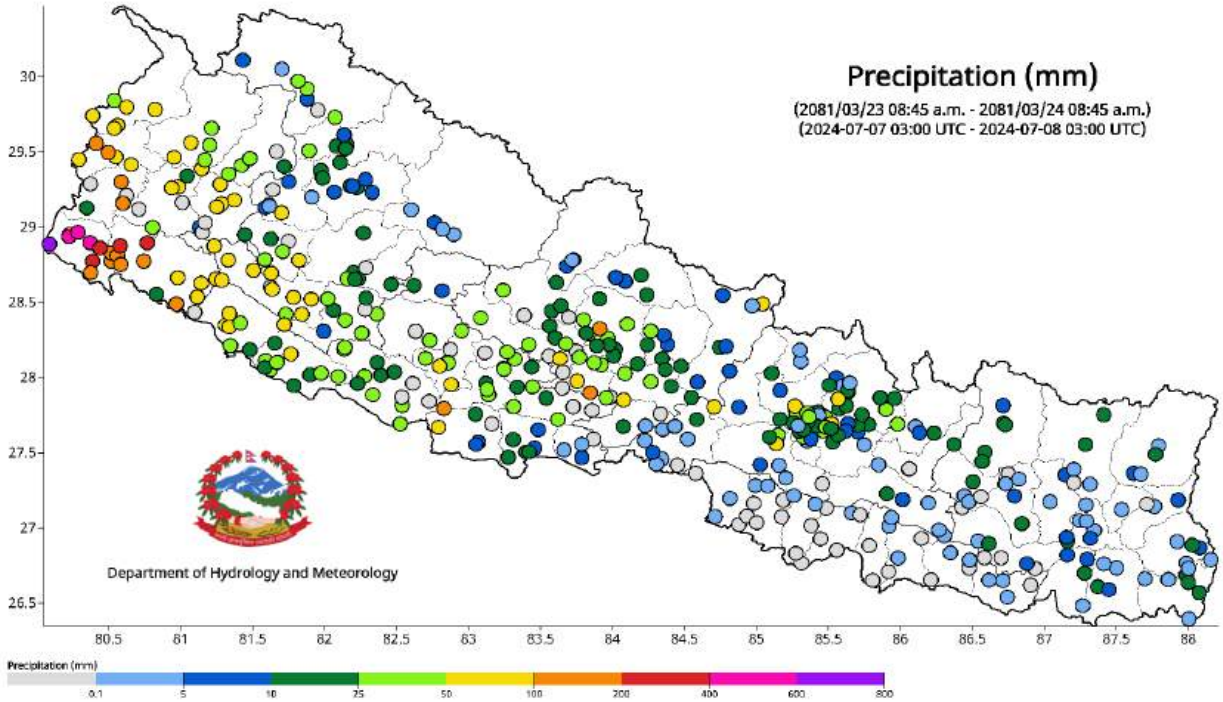

Figure 5.1.1: 24 hr. Precipitation Observation on 8th July 2024.

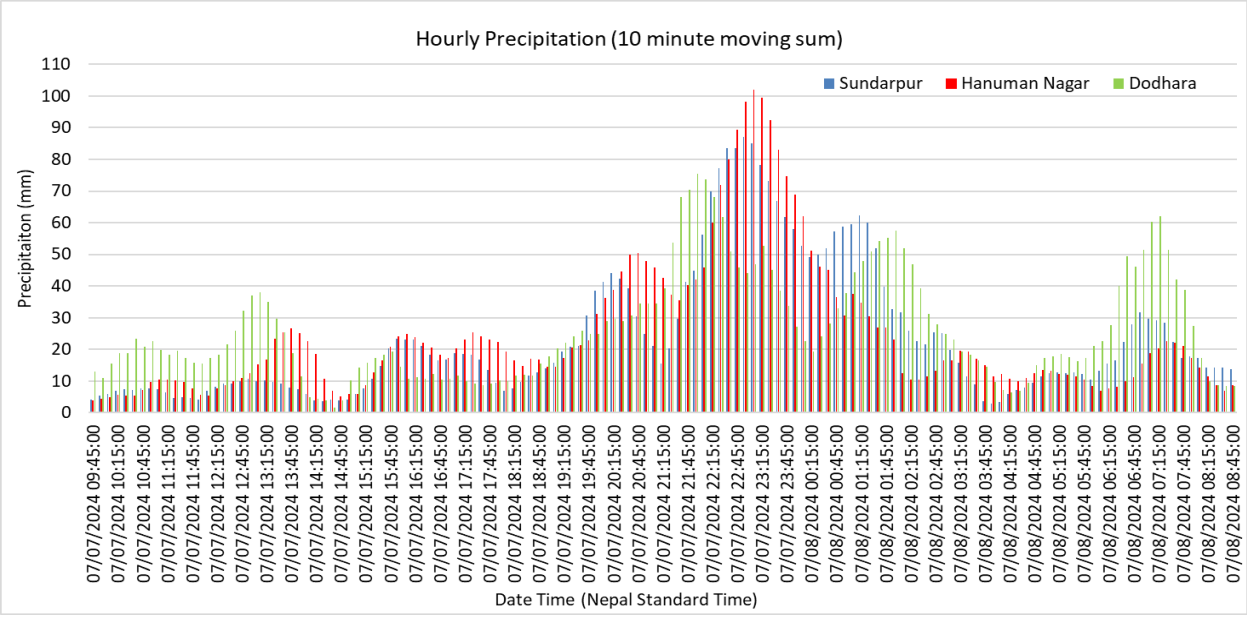

Figure 5.1.2: Hourly Precipitation at Sundarpur, Hanuman Nagar and Dodhara Stations from 8:45 A.M. July 7 2024 to 8:45 A.M. July 8 2024

b) Extreme Precipitation event of 27-29 September 2024

The three-day accumulated precipitation from 26 September 08:45 AM to 29 September 08:45 AM shows heavy to extremely heavy rainfall in Koshi Province, Madhesh Province, Bagamati Province, the southern part of Gandaki Province, and the eastern part of Lumbini Province while light to moderate precipitation was recorded across rest of the country (Figure 5.1.2). Meteorological stations at Daman, Chandragadhi, Dedhgaun, Naikap, Kechana, and Khopasi reported accumulated precipitation over 400 mm for the period. A total of 183 stations recorded more than 50 mm of precipitation.

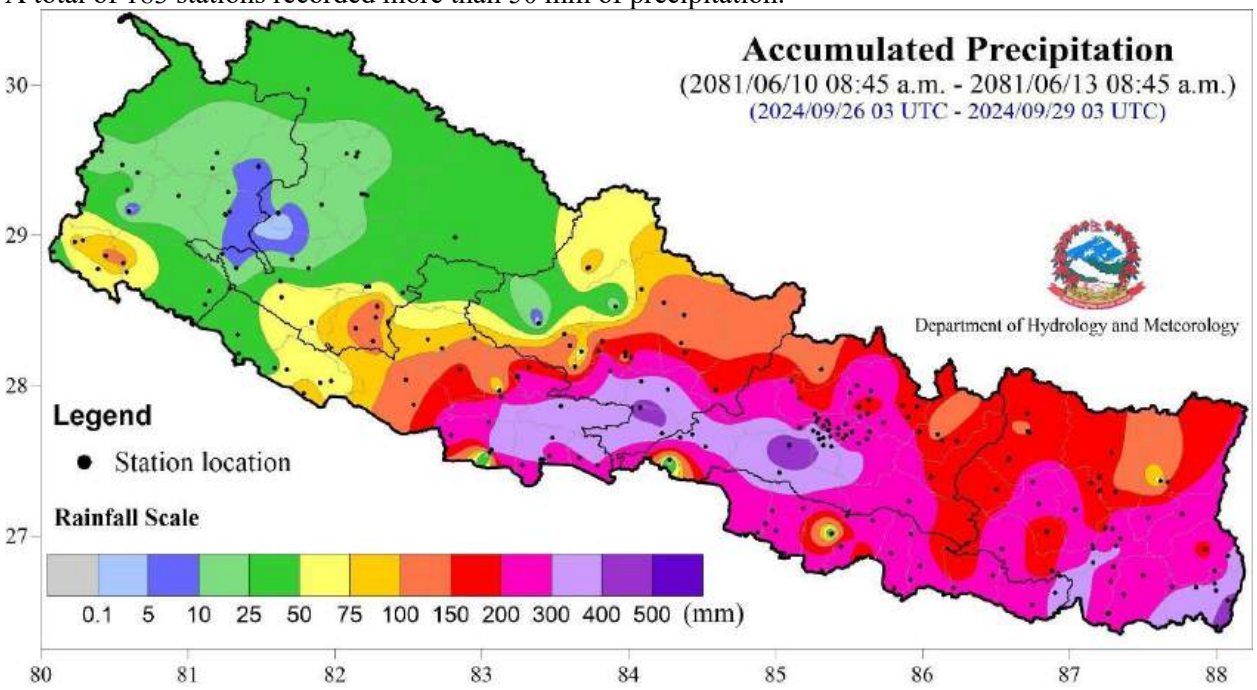

Figure 5.1.2: Three-day accumulated precipitation measured at 8:45 AM on 29 September 2024

5.2 Glacial Lake Outburst Flood (GLOF) Event – Thame Khola, Solukhumbu

On August 16, 2024 at approximately 1:30 PM, a sudden flood occurred in Thame Khola, Ward No. 5 of Khumbu Pasang Lhamu Rural Municipality, Solukhumbu. The flood originated from the sudden breach of two interconnected glacial lakes (Lake 1 and 2, Figure 5.1.3). A minor landslide into the upper lake is believed to have triggered the overflow into the lower lake, leading to its rupture and the subsequent flood. Rainfall data from the nearby Phortse station recorded 65 mm of cumulative rainfall over the past 7 days. Notably, a rise in daily average temperature was observed on August 9, from 9.7°C to 11.0°C, with a maximum temperature of 15.9°C on August 15. Based on initial evidence, the combination of sustained rainfall and temperature increase is suspected to have triggered a glacial lake outburst flood (GLOF) from one of the lakes in the Thame Khola catchment.

At the Department of Hydrology and Meteorology's flood monitoring station at Khudi Khola in Khotang approximately 82 km downstream a rapid rise in river level was observed: from 4.29 meters at 5:10 PM to 5.53 meters by 5:40 PM, before gradually receding. Although the risk in downstream areas appears to be limited, continued alertness along the lower Dudhkoshi River was advised.

Upon receiving initial reports, the Department issued free early warning SMS alerts to approximately 142,000 people across downstream settlements from Thame (Solukhumbu) to Okhaldhunga by 2:30 PM.

Figure 5.1.3: Thame river catchment and nearby glaciers (source:https://dhm.gov.np/uploads/dhm/downloads/Thame_Flood_Report_23_August_2024.pdf)

5.3 Hot days and Heatwaves

In 2024, between April and September, several stations in the Terai region of Nepal recorded maximum temperatures exceeding 40°C, indicating the occurrence of hot days and heatwaves. The Terai regions of Lumbini Province and Sudurpaschim Province first recorded temperatures above 40°C on April 19, with gradually expanding eastward by April 20, reaching the central part of Madhesh Province. Heatwave conditions persisted in Madhesh and Lumbini Provinces until the end of April. Heatwaves were observed in the western part of Madhesh Province during the first half of the first week of May, while the southern part of Sudurpaschim Province experienced similar conditions in the latter half. Another episode of heatwave occurred during the third week of May (15th to 20th), especially in the Terai regions of Lumbini and Sudurpaschim Provinces. After a break from May 7 to 14, heatwaves appeared on May 15, primarily in Lumbini Province, and persisted until May 20. Heatwaves continued from May 24 to 31, affecting Madhesh, Lumbini, and Sudurpaschim Provinces, and extended up to June 1. Notably, the periods from June 3 to 7 and June 14 to 19 experienced heatwaves, particularly concentrated in the western Terai. After a short break from June 20 to 23, the hot-day threshold was again crossed on June 24 in Banke. Later in the year, on September 23, Janakpur recorded a temperature above 40°C, marking an isolated hot day well outside the typical hot season.

Overall, the data highlights multiple heatwave episodes across the western and central Terai during April, May, and June, with the most persistent hot spells occurring in late April and mid-May. DHM issued 11 heatwave bulletins with warnings advising to 'Be Updated', 'Be Prepared', and 'Take Action' during the period.

5.4 Human and Economic losses due to climate induced hazards

In 2024, Nepal faced severe impacts from floods, landslides, thunderbolts, and other climate induced disasters. Landslides caused the highest fatalities and injuries, while thunderbolts led to the most injuries. Floods resulted in significant deaths and the highest economic loss (Figure 4.12.1).

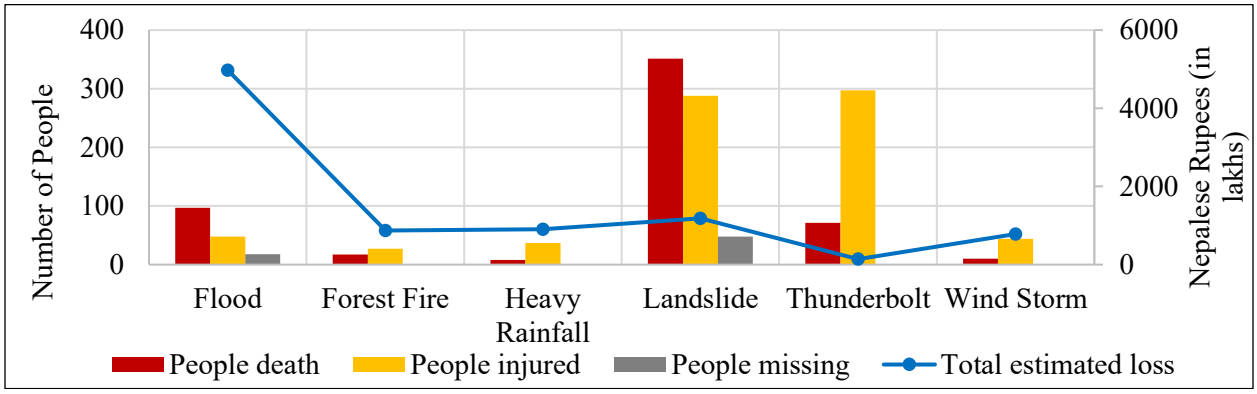

Figure 4.12.1: Human and Economic losses due to climate induced hazards in 2024 (data from bipadportal.gov.np)

6. Historical Record break

Several stations broke the previous record of extremes of temperature and precipitation.

Table 1: List of stations breaking previous record of ever-recorded highest daily maximum temperature in 2024.

S.N.	Station Name	District	Province	Record break maximum temperature (°C)/Date	Previous highest maximum temperature (°C)/Date
1	Baglung	Baglung	Gandaki	39.5/2024-06-12	39.2/1994-05-04
2	Chainpur	Bajhang	Sudurpaschim	37.6/2024-06-15	36.5/2012-06-15
3	Changu Narayan	Bhaktapur	Bagamati	35.4/2024-06-10	33.6/2015-06-06
4	Chautara	Sindhupalchok	Bagamati	39.9/2024-05-29	35.6/2023-06-23
5	Darchula	Darchula	Sudurpaschim	40.0/2024-06-15	39.5/2015-06-10
6	Dhankuta	Dhankuta	Koshi	34.0/2024-09-23	33.7/2022-07-15
7	Dharan Bazar	Sunsari	Koshi	40.0/2024-04-28	39.3/2023-06-07
8	Diktel	Khotang	Koshi	30.2/2024-07-27	30.0/2012-05-15
9	Jumla	Jumla	Karnali	32.0/2024-06-14	31.9/1990-06-25
10	Kanyam Tea Estate	Ilam	Koshi	30.5/2024-09-21	30.0/2023-06-03
11	Karmaiya	Sarlahi	Madhesh	43.0/2024-04-30	42.5/1995-05-02
12	Patan	Baitadi	Sudurpaschim	39.0/2024-06-08	35.5/2019-06-15
13	Rara	Mugu	Karnali	32.0/2024-09-19	30.1/2001-10-06
14	Tikapur	Kailali	Sudurpaschim	45.2/2024-05-30	45.0/2012-06-13

Table 2: List of stations breaking previous record of ever-recorded lowest daily minimum temperature in 2024.

S.N.	Station Name	District	Province	Record break minimum temperature (°C)/Date	Previous lowest minimum temperature (°C)/Date
1	Dunai	Dolpa	Karnali	-8.0/2024-12-21	-7.0/1985-12-28

Table 3: List of stations breaking previous record of ever-recorded highest daily precipitation in 2024.

S.N.	Station Name	District	Province	Record break daily precipitation (mm)/Date	Previous highest precipitation (mm)/Date
1	Galkot	Baglung	Gandaki	207.4/2024-06-29	122.0/2022-09-01
2	Dainsili	Baitadi	Sudurpaschim	129.9/2024-09-13	113.5/2024-08-30

3	Nangkhel	Bhaktapur	Bagamati	194.5/2024-09-28	191.5/2002-07-23
4	Govindabasti	Chitwan	Bagamati	230.0/2024-09-28	196.0/2024-07-19
5	Meghauli	Chitwan	Bagamati	209.2/2024-09-28	205.5/2007-09-06
6	Riew khola	Chitwan	Bagamati	263.0/2024-09-28	223.0/2017-08-13
7	Jalkundi	Dang	Lumbini	172.2/2024-06-30	166.8/2023-08-08
8	Lumpthi	Darchula	Sudurpaschim	144.2/2024-08-03	125.3/2024-08-02
9	Majhimtar	Dhading	Bagamati	317.0/2024-09-28	260.2/2017-08-13
10	Gajuri	Dhading	Bagamati	210.6/2024-09-28	131.3/2021-07-02
11	Gaira	Doti	Sudurpaschim	176.4/2024-07-08	170.7/2024-09-13
12	Chhekampar	Gorkha	Gandaki	92.4/2024-09-27	73.0/2024-07-08
13	Laprak	Gorkha	Gandaki	165.4/2024-09-28	134.8/2024-09-16
14	Chandragadi Airport	Jhapa	Koshi	256.0/2024-09-28	188.2/2022-06-28
15	Dodhara	Kanchanpur	Sudurpaschim	624.0/2024-07-08	410.5/2008-09-21
16	Hanman Nagar	Kanchanpur	Sudurpaschim	573.6/2024-07-08	500.0/2000-07-01
17	Jhalari	Kanchanpur	Sudurpaschim	488.7/2024-07-08	210.7/2021-08-12
18	Jitpurphedhi	Kathamandu	Bagamati	178.3/2024-09-28	128.2/2019-07-07
19	Nagarjun	Kathamandu	Bagamati	205.4/2024-09-28	147.5/2014-09-13
20	Buddhanilakantha	Kathmandu	Bagamati	178.3/2024-09-28	159.0/2002-07-23
21	Kathmandu Airport	Kathmandu	Bagamati	239.7/2024-09-28	177.0/2002-07-23
22	Naikap	Kathmandu	Bagamati	245.0/2024-09-28	235.5/2002-07-22
23	Panipokhari	Kathmandu	Bagamati	225.2/2024-09-28	198.0/1971-06-14
24	Dolal Ghat	Kavrepalanchok	Bagamati	211.0/2024-09-28	157.5/1951-07-06
25	Dhulikhel	Kavrepalanchok	Bagamati	224.6/2024-09-28	220.0/2002-07-23
26	Khopasi	Kavrepalanchok	Bagamati	313.0/2024-09-28	276.9/2015-09-03
27	Panchkhal	Kavrepalanchok	Bagamati	232.5/2024-09-28	145.0/1999-10-21
28	Sundarijal	Khthamandu	Bagamati	160.0/2024-09-28	153.8/2002-07-23
29	Chapa Gaun	Lalitpur	Bagamati	323.5/2024-09-28	200.5/2002-07-23
30	Godavari	Lalitpur	Bagamati	290.0/2024-09-28	225.2/2002-07-23
31	Khokana	Lalitpur	Bagamati	297.3/2024-09-28	249.2/2002-07-23
32	Khumaltar	Lalitpur	Bagamati	324.5/2024-09-28	136.0/2022-08-10
33	Tikathali	Lalitpur	Bagamati	248.5/2024-09-28	207.0/2002-07-23
34	Bhujung	Lamjung	Gandaki	157.0/2024-07-24	102.0/2014-08-07
35	Daman	Makwanpur	Bagamati	410.0/2024-09-28	373.2/1993-07-20
36	Humde	Manang	Gandaki	84.2/2024-09-28	64.7/2022-10-07
37	Naar	Manang	Gandaki	37.0/2024-02-19	31.6/2021-05-13
38	Kakani	Nuwakot	Bagamati	169.2/2024-09-28	161.0/1972-07-28
39	Phidim	Panchthar	Koshi	172.0/2024-09-28	148.9/2021-10-20
40	Suryapura	Rupandehi	Lumbini	244.9/2024-09-28	206.6/2021-08-27
41	Baunepati	Sindhupalchok	Bagamati	164.0/2024-09-28	137.5/1978-07-16
42	Duwachaur	Sindhupalchok	Bagamati	152.7/2024-09-28	147.8/1999-07-18
43	Sangachok	Sindhupalchok	Bagamati	190.2/2024-09-28	141.0/2018-08-08
44	Thokarpa	Sindhupalchok	Bagamati	194.3/2024-09-28	140.0/2004-06-22
45	Syamgha	Tanahun	Gandaki	245.2/2024-09-28	242.2/2007-06-20
46	Atraulitar	Tanahun	Gandaki	261.5/2024-09-27	235.0/2014-08-15
47	Khairini Tar	Tanahun	Gandaki	252.3/2024-09-28	241.9/1983-07-17
48	Kotagaun	Tanahun	Gandaki	358.6/2024-09-28	339.0/2007-09-06
49	Sakhar	Tanahun	Gandaki	283.3/2024-09-28	173.2/2020-07-21

Annex 1: List of Stations

Index No.	Station Name	District	Province	Longitude (dd)	Latitude (dd)	Elevation (m)
605	Baglung	Baglung	Gandaki	83.600	28.264	964
1027	Bahrabise	Sindhupalchok	Bagamati	85.900	27.789	884
102	Baitadi (Gothalapani)	Baitadi	Sudurpaschim	80.410	29.557	1352
204	Bajura (Martadi)	Bajura	Sudurpaschim	81.480	29.457	1598
808	Bandipur	Tanahun	Gandaki	84.410	27.942	991
705	Bhairahawa Airport	Rupandehi	Lumbini	83.420	27.507	108
1052	Bhaktapur	Bhaktapur	Bagamati	85.420	27.677	1315
505	Bijuwar Tar	Pyuthan	Lumbini	82.850	28.104	835
1319	Biratnagar Airport	Morang	Koshi	87.270	26.484	72
918	Birganj	Parsa	Madhesh	84.880	27.023	67
1303	Chainpur (East)	Sankhuwasabha	Koshi	87.320	27.292	1277
299	Chainpur Bajhang	Bajhang	Sudurpaschim	81.200	29.546	1405
1059	Changu Narayan	Bhaktapur	Bagamati	85.430	27.716	1502
810	Chapkot	Syangja	Gandaki	83.850	27.900	617
1102	Charikot	Dolkha	Bagamati	86.050	27.667	1940
1316	Chatara	Sunsari	Koshi	87.160	26.820	105
513	Chaurjhari Tar	Rukum	Karnali	82.210	28.654	863
1009	Chautara	Sindhupalchok	Bagamati	85.730	27.754	1552
405	Chisapani (Karnali)	Kailali	Sudurpaschim	81.290	28.650	201
104	Dadeldhura	Dadeldhura	Sudurpaschim	80.590	29.301	1879
402	Dailekh	Dailekh	Karnali	81.710	28.838	1394
1408	Damak	Jhapa	Koshi	87.700	26.671	119
905	Daman	Makwanpur	Bagamati	85.090	27.604	2265
817	Damauli	Tanahun	Gandaki	84.270	27.974	347
107	Darchula New	Darchula	Sudurpaschim	80.550	29.845	945
209	Dhangadhi (Attariya)	Kaliali	Sudurpaschim	80.560	28.813	184
1307	Dhankuta	Dhankuta	Koshi	87.350	26.983	1192
1311	Dharan Bazar	Sunsari	Koshi	87.300	26.792	310
1024	Dhulikhel	Kabhre	Bagamati	85.570	27.616	1543
1055	Dhunche	Rasuwa	Bagamati	85.300	28.110	1993
1038	Dhunibesi	Dhading	Bagamati	85.160	27.723	991
1222	Diktel	Khotang	Koshi	86.790	27.213	1612
218	Dipayal (Doti)	Doti	Sudurpaschim	80.940	29.262	563
706	Dumkauli	Nawalparasi	Gandaki	84.230	27.681	183
312	Dunai	Dolpa	Karnali	82.900	28.951	2098
1421	Gaida (Kankai)	Jhapa	Koshi	87.860	26.657	107
922	Gaur	Routahat	Madhesh	85.310	26.767	77
515	Ghorai (Dang)	Dang	Lumbini	82.480	28.037	663
1022	Godavari	Lalitpur	Bagamati	85.380	27.593	1527
809	Gorkha	Gorkha	Gandaki	84.590	27.971	724
408	Gulariya	Bardiya	Lumbini	81.350	28.213	126
1114	Hardinath	Dhanusa	Madhesh	85.980	26.800	93
906	Hetauda N.F.I.	Makwanpur	Bagamati	85.030	27.423	452
871	Humde	Manang	Gandaki	84.090	28.640	3401
1407	Ilam Tea Estate	Ilam	Koshi	87.920	26.910	1208
404	Jajarkot	Jajarkot	Karnali	82.200	28.699	1240
1122	Jalesor	Mahottari	Madhesh	85.810	26.652	68
1111	Janakpur Airport	Dhanusa	Madhesh	85.920	26.711	76
1103	Jiri	Dolkha	Bagamati	86.230	27.630	1877
601	Jomsom	Mustang	Gandaki	83.730	28.784	2741
303	Jumla	Jumla	Karnali	82.180	29.275	2363
399	Jumla Airport	Jumla	Karnali	82.190	29.274	2384
1007	Kakani	Nuwakot	Bagamati	85.270	27.814	2030
1416	Kanyam Tea Estate	Ilam	Koshi	88.080	26.868	1570
1121	Karmaiya	Sarlahi	Madhesh	85.480	27.132	139
1030	Kathmandu Airport	Kathmandu	Bagamati	85.360	27.704	1337

Index No.	Station Name	District	Province	Longitude (dd)	Latitude (dd)	Elevation (m)
1327	Khadbari	Sankhuwasabha	Koshi	87.200	27.391	1064
815	Khairini Tar	Tanahun	Gandaki	84.090	28.027	515
409	Khajura (Nepalganj)	Banke	Lumbini	81.590	28.114	129
715	Khanchikot	Arghakhanchi	Lumbini	83.130	27.922	1801
1073	Khokana	Lalitpur	Bagamati	85.300	27.644	1309
802	Khudi Bazar	Lamjung	Gandaki	84.360	28.282	838
1029	Khumaltar	Lalitpur	Bagamati	85.330	27.652	1334
614	Kushma	Parbat	Gandaki	83.680	28.225	900
1215	Lahan	Siraha	Madhesh	86.480	26.733	110
607	Lete	Mustang	Gandaki	83.610	28.633	2490
504	Libang Gaun	Rolpa	Lumbini	82.630	28.306	1314
727	Lumbini	Rupandehi	Lumbini	83.280	27.470	95
814	Lumle	Kaski	Gandaki	83.820	28.297	1738
105	Mahendra Nagar	Kanchanpur	Sudurpaschim	80.230	28.955	197
217	Mangalsen	Achham	Sudurpaschim	81.250	29.136	1310
329	Manma	Kalikot	Karnali	81.610	29.149	1729
1123	Manthali	Ramechhap	Bagamati	86.060	27.395	497
1118	Manusmara	Sarlahi	Madhesh	85.450	26.928	90
514	Musikot(Rukumkot)	Rukum	Karnali	82.460	28.618	1412
1043	Nagarkot	Bhaktapur	Bagamati	85.520	27.693	2147
308	Nagma	Kalikot	Karnali	81.910	29.201	2017
420	Nepalgunj Airport	Banke	Lumbini	81.670	28.101	165
416	Nepalgunj (Reg.Off.)	Banke	Lumbini	81.620	28.052	141
1004	Nuwakot	Nuwakot	Bagamati	85.160	27.915	966
1206	Okhaldhunga	Okhaldhunga	Koshi	86.500	27.308	1731
220	Oli Gaun (Patkani)	Achham	Sudurpaschim	81.280	29.156	989
1304	Pakhribas	Dhankuta	Koshi	87.290	27.046	1720
1036	Panchkhal	Kabhre	Bagamati	85.620	27.645	857
708	Parasi	Nawalparasi	Lumbini	83.660	27.519	112
911	Parwanipur	Bara	Madhesh	84.930	27.079	87
103	Patan new	Baitadi	Sudurpaschim	80.550	29.467	1292
1212	Phattepur	Saptari	Madhesh	86.930	26.737	83
1419	Phidim (Panchther)	Panchther	Koshi	87.770	27.144	1157
804	Pokhara Airport	Kaski	Gandaki	83.980	28.200	827
401	Pusma Camp	Surkhet	Karnali	81.230	28.876	953
1223	Rajbiraj	Saptari	Madhesh	86.740	26.541	68
902	Rampur	Chitawan	Bagamati	84.350	27.654	189
307	Rara	Mugu	Karnali	82.080	29.540	2989
1219	Salleri	Solukhumbu	Koshi	86.590	27.505	2383
511	Salyan Bazar	Salyan	Karnali	82.140	28.382	1557
728	Semari	Nawalparasi	Lumbini	83.790	27.468	110
909	Simara Airport	Bara	Madhesh	84.980	27.164	137
311	Simikot	Humla	Karnali	81.820	29.972	2993
1107	Sindhuli Madhi	Sindhuli	Bagamati	85.920	27.218	556
1216	Siraha	Siraha	Madhesh	86.210	26.656	63
406	Surkhet Airport	Surkhet	Karnali	81.640	28.588	720
805	Syangja	Syangia	Gandaki	83.870	28.099	871
725	Tamghas	Gulmi	Lumbini	83.240	28.064	1547
702	Tansen	Palpa	Lumbini	83.540	27.864	1183
1405	Taplejung	Taplejung	Koshi	87.670	27.359	1744
1320	Tarahara	Sunsari	Koshi	87.280	26.699	120
716	Taulihawa	Kapilbastu	Lumbini	83.070	27.571	106
1314	Terhathum	Terhathum	Koshi	87.540	27.123	1525
604	Thakmarpha	Mustang	Gandaki	83.680	28.739	2655
207	Tikapur	Kailali	Sudurpaschim	81.120	28.537	149
1213	Udayapur Gadhi	Udayapur	Koshi	86.540	26.913	469

Annex 2: Seasonal Precipitation and Temperature in 2024

Stations	Annual						Winter						Pre-monsoon						Monsoon						Post-monsoon					
	Precipitation		Maximum		Minimum		Precipitation		Maximum		Minimum		Precipitation		Maximum		Minimum		Precipitation		Maximum		Minimum		Precipitation		Maximum		Minimum	
	Total	PoN	Average	DFN	Average	DFN	Total	PoN	Average	DFN	Average	DFN	Total	PoN	Average	DFN	Average	DFN	Total	PoN	Average	DFN	Average	DFN	Total	PoN	Average	DFN	Average	DFN
Baglung	-	-	26.1	-	9.6	-5.4	3.4	5.1	24.4	-	8.3	1.0	-	-	32.9	3.0	16.0	0.8	2060.6	126.6	33.0	1.8	21.6	0.3	21.5	32.6	28.6	1.5	14.4	0.6
Bahrabise	2884.2	102.8	25.0	-	9.0	-	2.1	3.7	23.0	-	6.9	-	204.0	59.9	31.6	-	15.1	-	2625.1	114.0	32.6	-	21.8	-	53.1	49.5	28.7	-	15.3	-
Baitadi (Gothalapani)	1365.2	106.6	-	-	-	-	27.7	23.1	16.8	-	4.7	-	139.4	65.0	26.5	-	14.1	-	1180.1	129.3	32.0	-	19.5	-	3.3	9.9	-	-	-	-
Bajura (Martadi)	2145.8	111.4	19.5	-	7.6	-	90.7	59.5	17.4	-	5.3	-	148.5	65.9	25.8	-	13.6	-	1853.1	122.9	28.5	-	19.8	-	22.2	54.7	23.5	-	12.0	-
Bandipur	2597.2	156.7	22.4	-	7.2	-	0.3	0.5	20.8	-	5.3	-	282.5	98.1	28.2	-	13.5	-	2313.5	184.1	29.5	-	17.4	-	1.1	2.1	26.6	-	12.1	-
Bhairahawa Airport	1931.4	118.3	25.2	-5.7	12.7	-6.2	0.4	0.8	22.1	-0.9	9.7	-0.2	96.5	70.6	36.1	1.4	20.2	0.6	1833.5	133.9	34.7	0.7	26.9	1.1	1.0	1.4	31.8	0.9	19.4	1.8
Bhaktapur	1684.0	122.5	23.4	-	5.9	-	13.8	28.9	20.8	-	3.5	-	95.4	43.2	29.4	-	12.5	-	1559.4	147.7	31.0	-	20.9	-	15.4	30.4	27.0	-	12.4	-
Bijuwar Tar	1484.3	123.2	26.2	-	9.7	-	9.3	13.8	24.1	-	7.2	-	188.2	124.2	32.7	-	15.8	-	1260.4	132.5	33.1	-	22.9	-	30.6	86.7	29.3	-	15.6	-
Biratnagar Airport	2558.1	145.6	25.8	-4.6	13.4	-5.8	5.0	19.0	23.7	-0.9	11.0	0.5	359.0	145.0	33.0	0.2	20.2	0.1	2142.4	152.6	33.1	0.3	26.3	0.7	55.9	70.4	31.0	0.3	19.9	1.4
Birganj	1501.6	-	26.3	-	13.9	-	2.8	-	23.5	-	11.2	-	154.7	90.6	35.6	-	21.2	-	1327.6	105.5	35.7	-	27.6	-	16.5	26.3	32.4	-	20.7	-
Chainpur (East)	1607.4	114.3	22.1	-2.8	11.6	-2.1	8.4	23.9	20.6	1.1	9.7	2.0	239.4	72.4	27.9	1.0	13.9	-0.1	1237.7	126.7	29.5	1.7	21.1	2.7	130.2	206.3	25.7	1.5	16.6	4.0
Chainpur Bajhang	-	-	-	-	-	-	60.8	-	19.1	-	4.4	-	130.6	-	28.3	-	13.2	-	1152.8	-	30.1	-	20.0	-	-	-	-	-	-	-
Changu Narayan	2151.9	125.1	23.6	-	8.0	-	5.7	12.2	22.0	-	6.0	-	178.5	68.7	29.2	-	14.2	-	1884.8	139.8	29.9	-	19.5	-	82.8	126.8	27.2	-	13.5	-
Chapakot	2519.0	136.6	25.6	-3.5	12.0	-4.8	0.2	0.3	23.7	1.3	9.6	0.5	122.4	45.5	33.9	2.0	18.2	1.1	2377.6	163.8	34.1	1.6	23.4	0.5	18.5	34.1	30.0	2.0	17.5	1.9
Charikot	-	-	-	-	-	-	7.7	16.7	14.2	-	3.0	-	344.0	123.3	21.6	-	10.7	-	2686.0	150.8	23.6	-	16.2	-	-	-	-	-	-	-
Chatara	2556.3	117.8	27.8	-	13.7	-	0.5	1.6	26.4	-	11.5	-	228.9	79.0	34.6	-	20.4	-	2106.8	124.8	34.6	-	25.7	-	220.6	136.9	32.9	-	19.9	-
Chaurjhari Tar	1566.4	133.0	23.7	-4.9	-	-	14.2	19.9	21.7	0.4	-	-	115.4	102.1	34.0	1.5	-	-	1436.3	150.8	33.3	0.8	-	-	2.0	4.9	25.6	-0.6	-	-
Chautara	-	-	22.3	-	7.9	-	3.0	7.2	20.8	-	6.1	-	70.2	31.4	28.9	-	13.1	-	-	-	29.4	-	16.6	-	21.8	33.9	26.0	-	12.4	-
Chisapani (Karnali)	2368.3	103.4	24.1	-5.4	14.0	-5.6	19.3	25.4	21.1	-0.4	11.6	-0.2	198.3	166.9	35.0	1.1	21.8	0.7	2131.4	104.3	35.1	2.5	26.1	1.0	23.0	45.6	29.5	1.1	19.6	1.4
Dadeldhura	1477.9	109.9	18.4	-3.3	6.4	-5.0	44.0	34.0	16.3	0.5	4.1	-0.6	105.6	60.1	25.7	2.1	12.2	0.4	1295.7	129.6	26.6	1.7	17.9	1.1	3.3	8.3	22.2	1.1	10.7	0.9
Dailekh	1404.7	82.1	19.4	-6.1	7.8	-5.1	28.9	30.2	17.3	-0.8	6.4	-0.2	88.5	54.9	28.5	-0.2	13.9	-0.3	1270.8	89.4	29.3	-0.1	18.2	1.0	11.8	36.3	23.8	-0.3	12.7	1.0
Damak	2710.0	117.0	26.7	-	11.7	-	1.8	6.0	25.0	-	9.0	-	289.6	101.8	33.4	-	20.0	-	2269.6	121.2	33.8	-	24.0	-	150.8	116.1	31.4	-	16.6	-
Daman	2146.3	-	15.7	-	4.5	-	13.5	-	13.9	-	2.3	-	326.4	-	20.5	-	9.6	-	1804.4	138.4	22.9	-	15.0	-	2.0	-	19.5	-	8.6	-
Damauli	2237.7	130.9	25.2	-	13.3	-	0.0	0.0	23.5	-	11.0	-	191.3	53.7	33.1	-	18.5	-	2045.8	163.5	34.4	-	25.0	-	0.5	1.2	30.1	-	19.5	-
Darchula New	2869.3	-	-	-	-	-	38.9	-	21.8	-	6.9	-	245.2	-	31.9	-	16.5	-	2565.8	-	33.0	-	22.4	-	9.6	-	-	-	-	-
Dhangadhi (Attariya)	1920.2	103.7	25.0	-5.6	12.3	-5.4	18.0	25.6	22.0	-0.6	9.4	0.8	54.0	48.9	35.7	0.9	19.6	1.5	1841.3	113.8	35.3	1.5	26.7	1.4	5.1	9.7	31.2	1.4	18.5	2.5
Dhankuta	1179.8	126.0	23.5	-1.3	10.3	-4.7	2.3	6.9	22.3	2.5	8.7	0.5	196.5	101.5	27.6	1.6	16.3	0.8	892.8	134.5	29.7	1.9	20.7	0.5	90.6	196.6	27.1	2.4	15.0	1.2
Dharan Bazar	2656.2	126.6	26.1	-	14.6	-	0.9	3.0	24.4	-	12.7	-	243.9	92.5	33.2	-	21.7	-	2071.1	123.6	32.9	-	25.4	-	341.2	261.2	30.4	-	19.7	-
Dhulikhel	1694.9	115.2	21.1	-1.0	7.1	-4.9	19.2	41.3	19.5	3.6	4.9	0.2	199.7	92.3	26.9	2.4	12.6	0.7	1442.5	124.7	28.2	2.5	18.8	0.6	33.5	65.6	24.4	3.8	12.3	1.8
Dhunche	1899.4	-	16.1	-	5.5	-	20.3	-	14.2	-	3.6	-	159.6	78.7	22.1	-	11.5	-	1704.8	102.3	24.1	-	17.0	-	14.9	24.2	20.1	-	9.8	-
Dhunibesi	-	-	24.6	-2.3	11.0	-5.2	-	-	23.0	3.0	9.2	0.1	123.0	60.8	31.3	1.5	17.4	0.5	1413.1	110.5	31.3	0.7	22.2	0.6	-	-	28.2	2.8	15.8	0.8
Diktel	1894.8	132.3	18.9	-	9.6	-	2.7	7.8	17.4	-	8.4	-	191.6	67.6	24.7	-	14.8	-	1650.2	154.6	25.7	-	19.0	-	52.5	112.6	22.2	-	14.0	-
Dipayal	1372.7	130.1	25.7	-5.1	9.0	-6.5	39.2	36.4	23.6	-0.2	5.8	-0.5	142.2	102.1	34.2	0.4	16.0	0.6	1168.8	153.0	34.9	0.4	24.2	0.8	7.7	17.5	29.8	0.2	15.8	2.3
Dumkauli	2323.8	96.9	26.3	-4.7	13.3	-5.5	0.0	0.0	25.0	0.8	10.9	0.5	222.5	74.9	35.2	0.9	20.2	0.8	1973.7	100.3	34.4	0.4	26.0	0.7	118.1	145.5	31.3	1.2	19.5	1.7
Dunai	463.1	129.0	-	-	-1.8	-	14.5	49.9	18.8	-	-4.3	-	43.3	111.2	25.9	-	5.4	-	411.0	148.9	29.5	-	13.7	-	0.0	0.0	-	-	2.7	-
Gaida (Kankai)	2621.6	102.0	26.5	-4.4	13.9	-4.0	2.0	6.9	24.5	-1.2	11.8	2.1	305.6	106.6	33.2	0.5	21.1	2.5	2176.0	102.5	33.5	0.2	26.0	2.2	140.0	105.6	31.2	-0.1	19.9	2.6

Stations	Annual						Winter						Pre-monsoon						Monsoon						Post-monsoon					
	Precipitation		Maximum		Minimum		Precipitation		Maximum		Minimum		Precipitation		Maximum		Minimum		Precipitation		Maximum		Minimum		Precipitation		Maximum		Minimum	
	Total	PoN	Average	DFN	Average	DFN	Total	PoN	Average	DFN	Average	DFN	Total	PoN	Average	DFN	Average	DFN	Total	PoN	Average	DFN	Average	DFN	Total	PoN	Average	DFN	Average	DFN
Gaur	1209.0	96.1	27.1	-2.6	11.9	-6.7	1.0	3.8	25.8	4.0	10.0	0.3	137.4	87.4	35.6	3.4	15.4	-3.9	1035.3	100.5	35.2	1.4	25.2	0.2	36.2	81.2	32.3	2.6	20.8	2.6
Ghorai (Dang)	2002.3	126.7	24.2	-4.2	11.1	-4.8	13.1	25.1	22.2	0.0	8.5	1.3	92.3	65.5	32.5	0.6	19.2	1.8	1847.5	138.7	32.0	1.0	24.3	1.8	54.1	98.4	28.2	0.7	16.5	2.8
Godavari	-	-	20.3	-2.6	4.9	-6.5	18.0	32.1	18.0	0.6	2.8	-1.1	235.3	105.8	25.3	0.4	10.1	-1.4	1823.4	137.0	27.2	1.2	17.2	-0.6	-	-	24.1	1.9	9.7	-0.2
Gorkha (Birenchok)	2247.8	136.4	23.3	-4.0	11.3	-	0.0	0.0	21.8	1.0	9.0	-0.1	264.9	92.8	31.3	1.6	17.8	-	1982.9	156.7	32.1	1.3	23.3	1.2	0.1	0.1	27.6	1.3	16.6	1.5
Gulariya	1121.6	85.1	24.9	-	10.7	-	14.9	25.3	21.7	-	8.5	-	46.0	48.6	34.9	-	18.0	-	1064.8	95.3	35.4	-	25.6	-	0.0	0.0	30.8	-	17.5	-
Hardinath	1784.5	-	25.3	-	13.7	-	0.6	-	22.8	-	11.2	-	131.8	-	34.3	-	20.0	-	1612.0	-	33.5	-	26.6	-	40.3	-	31.0	-	19.8	-
Hetauda N.F.I.	-	-	25.9	-3.8	-	-	0.0	0.0	24.2	0.5	9.4	0.9	287.2	99.3	33.3	0.5	18.8	1.4	-	-	32.8	0.3	24.5	1.1	21.4	26.4	29.2	0.4	17.4	1.9
Humde	485.0	-	9.1	-	-4.8	-	26.7	-	6.7	-	-7.4	-	99.3	-	14.1	-	0.7	-	374.4	-	19.1	-	9.8	-	0.6	-	13.4	-	-1.0	-
Ilam Tea Estate	-	-	20.1	-	12.2	-	3.8	11.9	18.7	-	10.6	-	221.9	104.7	25.1	0.3	17.0	-	1248.4	105.9	26.2	0.1	20.6	-	-	-	23.8	0.0	16.3	1.1
Jalesor	1167.6	115.5	25.9	-	14.5	-	3.0	28.8	23.4	-0.5	11.9	0.8	168.2	126.4	34.9	1.0	21.0	-0.1	987.2	116.8	34.6	-	27.4	1.6	9.2	41.7	31.5	-	20.9	-
Janakpur Airport	1349.2	92.0	27.7	-3.0	13.7	-5.9	0.7	3.1	25.2	1.0	11.4	0.8	149.1	77.9	35.5	1.8	21.1	0.8	1198.0	100.2	34.9	1.7	27.4	1.1	1.4	2.5	33.7	2.9	20.1	1.1
Jiri	2429.5	98.2	17.5	-3.3	2.7	-5.5	26.6	52.6	15.8	0.3	0.6	1.1	224.8	68.4	22.3	0.4	8.1	0.8	2153.8	107.1	24.9	0.7	16.8	0.5	23.3	27.6	21.0	0.8	8.5	2.0
Jomsom	337.8	115.4	13.6	-4.0	-0.1	-5.9	4.6	11.3	11.4	-0.1	-3.5	-2.3	53.7	76.3	18.8	0.7	5.6	0.9	284.1	179.2	23.4	1.1	13.9	1.0	0.0	0.0	17.7	1.2	2.1	-1.4
Jumla	608.4	75.7	17.8	-3.3	-1.2	-6.3	36.3	39.4	15.7	0.5	-3.9	0.1	70.9	49.6	23.7	1.9	5.8	1.5	503.6	94.3	26.9	1.7	15.6	1.2	6.7	19.4	22.4	1.5	3.8	2.1
Jumla Airport	643.7	-	17.0	-	-1.9	-	35.2	-	14.9	-	-4.3	-	72.6	-	22.6	-	4.3	-	538.2	-	26.3	-	14.3	-	5.7	-	21.2	-	2.8	-
Kakani	-	-	-	-	-	-	2.6	4.4	14.3	-0.6	5.0	-0.1	164.1	48.7	21.7	-0.3	12.3	0.4	2572.9	109.6	23.0	0.1	16.6	0.6	-	-	-	-	-	-
Kanyam Tea Estate	-	-	19.3	-1.2	9.7	-1.9	22.1	50.7	17.9	2.6	8.1	3.0	443.6	133.5	23.6	1.8	14.6	2.7	2521.0	109.2	24.5	1.3	18.8	2.2	-	-	23.5	2.8	14.0	2.9
Karmaiya	1843.1	98.4	26.3	-4.7	14.7	-5.7	5.7	22.8	24.0	-0.3	12.3	-0.3	77.1	40.1	35.2	1.0	21.4	-0.2	1685.9	107.2	34.5	0.6	26.3	0.4	75.0	90.5	31.7	1.1	20.8	1.1
Kathmandu Airport	1950.1	129.8	21.4	-4.6	7.8	-4.7	8.3	17.9	19.2	-1.3	5.5	1.4	119.2	51.8	29.0	1.1	14.1	1.7	1817.0	154.5	30.0	1.0	20.5	0.8	5.7	11.4	25.6	0.2	13.2	2.0
Khadbari	1965.5	-	24.0	-	12.6	-	6.0	-	23.1	-	10.9	-	259.1	-	28.9	-	17.2	-	1459.6	-	30.0	-	21.7	-	242.8	-	27.1	-	16.3	-
Khairini Tar	2973.4	131.0	25.1	-4.2	11.8	-5.4	0.7	1.1	23.8	1.1	9.7	0.1	335.8	72.8	32.5	0.5	16.4	-0.2	2550.6	151.6	33.3	0.5	23.9	0.4	86.8	139.1	29.1	1.2	18.1	1.3
Khajura	1279.5	99.9	25.1	-5.8	11.9	-6.2	14.5	24.3	22.0	-1.0	9.2	0.4	102.9	116.4	35.8	0.7	18.8	0.4	1142.5	105.1	35.7	1.5	26.9	1.4	26.0	56.8	31.3	1.2	18.5	2.0
Khanchikot	1725.6	101.8	18.0	-2.8	8.3	-4.5	5.6	6.3	16.2	0.8	6.3	-0.3	202.5	113.0	23.7	1.2	14.0	0.3	1496.4	109.6	25.4	1.6	17.6	0.3	20.4	34.0	22.4	1.8	12.6	0.8
Khokana	1562.9	120.2	22.5	-	4.7	-	13.6	25.4	20.7	-	2.0	-	111.6	52.0	28.1	-	11.5	-	1413.6	143.0	29.5	-	20.1	-	24.1	55.1	26.2	-	10.7	-
Khudi Bazar	3338.4	100.4	23.7	-3.9	9.7	-	17.4	19.0	22.1	0.1	8.5	-	304.5	72.8	29.0	-0.5	16.4	0.3	2941.2	108.1	30.5	-0.3	20.8	-0.2	75.3	79.5	27.8	0.8	14.0	0.1
Khumaltar	1777.5	152.9	22.1	-2.8	7.0	-5.1	13.9	30.6	20.3	1.0	4.5	1.3	94.2	47.1	27.4	0.9	13.3	1.6	1655.0	188.4	29.8	1.8	21.0	1.3	14.4	37.3	26.3	1.8	13.0	2.3
Kushma	2770.8	108.6	24.6	-4.0	10.0	-5.2	2.8	3.9	22.7	-0.2	7.8	0.2	177.7	64.4	31.4	0.8	16.2	0.5	2568.9	120.4	31.2	-0.3	22.3	1.0	22.6	31.7	27.5	-1.0	14.8	1.0
Lahan	1382.5	-	27.3	-	13.7	-	2.0	-	24.7	-	11.3	-	182.0	104.0	34.4	-	20.5	-	1198.0	118.0	34.8	-	26.7	-	2.0	3.1	32.9	-	19.9	-
Lete	1270.0	88.3	15.3	-	2.7	-	33.1	27.4	14.3	-	0.9	-	323.1	88.1	19.3	-	7.1	-	915.6	103.1	21.2	-	14.2	-	8.6	13.8	18.9	-	7.0	-
Libang Gaun	1523.5	97.7	22.7	-	6.9	-	17.7	18.4	20.7	-	4.2	-	140.2	78.9	29.2	-	13.8	-	1350.5	109.4	30.6	-	20.8	-	21.4	42.1	26.2	-	11.8	-
Lumbini	1509.3	115.9	24.7	-	12.4	-	5.5	13.7	21.8	-	9.8	-	44.7	41.6	35.8	-	19.6	-	1454.4	132.5	34.6	-	26.7	-	4.7	8.2	31.3	-	20.2	-
Lumle	4508.7	82.1	17.6	-2.9	7.5	-4.5	8.1	8.0	16.2	1.2	5.7	-0.1	416.0	83.0	23.0	1.0	12.8	0.7	3949.1	84.7	24.6	0.8	18.0	0.8	136.4	59.9	21.1	1.1	11.9	0.8
Mahendra Nagar	1993.9	105.7	24.6	-5.8	11.8	-5.7	22.0	25.0	21.8	-0.7	8.9	0.5	65.9	76.1	34.7	0.5	18.6	0.7	1887.7	113.8	35.0	1.1	26.1	1.0	11.2	21.2	30.9	1.4	17.8	2.2
Mangalsen	1661.6	117.1	20.7	-	7.6	-	47.0	31.9	19.4	-	5.2	-	171.8	91.6	27.1	-	13.9	-	1409.3	135.9	28.7	-	20.7	-	1.8	3.9	25.0	-	12.7	-
Manma	1478.2	-	19.3	-	7.4	-	41.4	-	16.9	-	5.2	-	150.6	-	25.4	-	13.3	-	1251.4	-	26.6	-	18.7	-	0.3	-	23.1	-	11.6	-
Manthali	1207.4	130.9	27.4	-	10.5	-	11.5	36.2	25.8	-	8.0	-	132.1	88.7	34.1	-	17.4	-	1056.3	150.1	35.0	-	23.7	-	7.5	20.1	31.3	-	16.8	-
Manusmara	1464.4	103.5	25.0	-5.8	13.5	-5.5	0.0	0.1	22.4	-1.4	11.0	1.1	89.0	54.2	34.3	0.4	20.4	0.8	1327.6	114.5	33.7	-0.1	26.8	1.0	47.8	74.8	30.7	-0.1	20.1	1.8
Musikot (Rukumkot)	2072.1	95.3	21.5	-3.6	8.7	-4.2	19.5	23.7	19.3	-0.1	6.6	1.0	137.5	62.4	28.6	1.5	14.7	1.7	1898.9	107.0	30.2	1.9	20.3	1.4	20.0	20.7	25.3	1.0	13.3	1.5
Nagarkot	-	-	16.4	-3.2	6.2	-3.9	2.5	5.1	14.7	0.5	4.3	0.4	-	-	22.2	0.7	11.4	1.1	2077.5	138.7	23.0	0.6	15.9	0.8	35.6	55.4	19.9	0.8	10.3	1.0
Nagma	542.1	67.2	17.7	-	-	-	51.5	39.1	15.4	-	0.3	-	91.8	53.2	22.9	-	9.0	-	380.1	81.4	26.2	-	17.1	-	8.5	24.6	20.7	-	7.3	-
Nepalgunj Airport	1471.6	99.7	24.8	-6.2	12.8	-5.4	-	-	21.8	-1.1	10.1	1.0	89.9	94.2	35.8	0.6	19.9	1.3	1361.5	106.7	35.3	1.0	26.9	1.5	13.4	26.6	30.7	0.6	19.5	2.7

Stations	Annual						Winter						Pre-monsoon						Monsoon						Post-monsoon					
	Precipitation		Maximum		Minimum		Precipitation		Maximum		Minimum		Precipitation		Maximum		Minimum		Precipitation		Maximum		Minimum		Precipitation		Maximum		Minimum	
	Total	PoN	Average	DFN	Average	DFN	Total	PoN	Average	DFN	Average	DFN	Total	PoN	Average	DFN	Average	DFN	Total	PoN	Average	DFN	Average	DFN	Total	PoN	Average	DFN	Average	DFN
Nepalgunj (Reg.Off.)	1389.8	105.8	25.5	-5.1	13.0	-6.6	20.0	34.7	22.7	0.1	10.1	-0.4	115.4	127.7	36.1	1.2	19.8	-0.9	1259.9	112.3	36.0	2.1	27.1	0.8	9.5	21.8	32.3	2.4	19.2	1.1
Nuwakot	2083.8	-	23.9	-	11.6	-4.9	0.0	0.0	22.1	0.1	9.6	0.1	108.0	51.5	30.6	0.5	18.2	0.8	1973.0	130.3	30.8	0.2	22.1	0.6	2.7	-	27.3	-	16.5	0.8
Okhaldhunga	2207.5	126.7	19.1	-3.2	8.8	-3.8	5.6	16.0	17.6	0.5	6.9	0.5	206.3	83.9	24.6	0.7	14.3	1.2	1950.9	140.2	25.7	0.7	18.4	1.1	44.7	64.5	23.0	0.8	12.6	0.7
Oli Gaun (Patkani)	1450.6	-	17.7	-	8.0	-	33.4	-	16.6	-	6.1	-	123.8	-	24.8	-	12.0	-	1236.4	-	31.1	-	18.9	-	30.5	-	22.4	-	13.4	-
Pakhribas	1545.0	101.0	18.1	-2.9	8.1	-4.3	1.7	4.5	16.7	0.8	5.9	-0.2	235.2	94.1	23.4	0.4	13.3	0.5	1269.9	107.4	24.6	1.1	17.9	0.5	40.0	67.8	21.6	1.0	10.8	-0.8
Panchkhal	-	-	25.7	-2.8	8.4	-5.8	8.5	23.6	24.8	2.2	6.1	0.6	118.0	77.7	31.9	1.6	14.1	0.6	1423.8	164.5	33.0	1.0	22.8	0.9	-	-	29.7	1.8	14.7	1.7
Parasi	-	-	-	-	12.3	-	-	-	-	-	9.7	-	224.2	136.4	34.6	-	18.7	-	1680.2	121.8	34.0	-	26.4	-	2.0	2.7	31.5	-	18.9	-
Parwanipur	1864.4	119.0	25.1	-5.6	12.5	-6.4	4.4	13.2	22.5	-1.1	10.5	0.6	173.7	100.3	34.3	0.3	19.2	-0.1	1635.6	125.9	33.8	0.3	26.3	0.5	50.7	83.1	31.0	0.1	19.1	1.4
Patan new	1284.9	-	-	-	-	-	28.9	-	19.7	-	4.5	-	160.3	-	29.2	-	14.1	-	1070.2	-	30.7	-	20.7	-	4.1	-	-	-	-	-
Phattepur	1820.0	97.5	27.4	-4.5	13.2	-	1.8	5.8	25.8	-0.7	10.7	-	148.2	60.7	34.0	0.0	19.4	-0.1	1596.8	106.2	33.6	-0.5	25.6	0.4	74.0	83.8	31.1	-1.1	19.4	0.9
Phidim	1286.8	102.7	23.5	-3.2	10.1	-	7.8	21.8	21.7	0.2	8.1	-	213.0	87.6	29.1	0.9	16.0	0.4	1004.2	108.9	31.4	1.9	21.8	1.0	66.2	126.8	27.8	1.3	15.2	1.6
Pokhara Airport	3756.0	97.1	22.9	-4.2	11.1	-4.7	11.6	17.0	21.3	0.1	9.1	0.8	323.5	57.9	29.6	0.4	17.4	1.4	3246.6	106.0	30.9	0.5	22.5	0.7	175.3	99.4	27.0	0.8	16.1	1.3
Pusma Camp	1637.3	105.4	21.0	-	8.8	-	23.3	21.4	18.5	-0.4	6.3	-2.5	89.3	66.5	29.7	0.2	15.9	-2.0	1522.7	119.6	30.1	-	21.6	-	0.0	0.1	24.0	-	14.2	-
Rajbiraj	2090.0	142.0	26.2	-4.6	14.1	-5.4	1.6	5.7	24.1	-0.6	12.0	0.8	255.6	128.8	34.2	0.7	20.9	0.3	1833.7	155.4	33.2	-0.1	26.3	1.0	0.7	1.1	31.4	0.3	20.2	1.3
Rampur	2018.4	98.0	25.9	-5.0	-	-	0.0	0.0	23.7	-0.4	9.1	0.1	156.3	57.6	35.6	1.4	18.6	0.8	1786.0	106.5	34.3	0.5	25.1	0.2	76.1	117.1	30.4	0.2	17.8	1.2
Rara	847.2	-	12.7	-	-	-	77.6	-	10.7	-	-	-	109.5	-	17.0	-	2.5	-	631.6	-	22.0	-	12.0	-	23.1	-	17.0	-	2.9	-
Salleri	2113.2	129.2	16.0	-	2.4	-	10.8	32.8	14.8	-	0.3	-	206.2	113.8	23.4	-	7.8	-	1862.9	138.2	25.0	-	14.7	-	36.3	49.7	21.1	-	6.7	-
Salyan Bazar	994.3	101.9	22.7	-2.7	9.0	-4.9	27.8	33.0	20.7	0.5	6.9	-0.4	105.4	101.4	28.2	0.7	15.5	0.7	868.4	116.0	29.0	1.4	19.9	0.9	1.6	4.2	25.8	0.4	13.3	0.7
Semari	1978.0	105.2	24.8	-6.7	12.7	-5.5	0.0	0.0	21.8	-0.9	9.9	0.8	190.3	105.8	35.2	-0.6	19.6	-0.1	1783.7	113.4	34.9	-1.0	26.7	1.9	4.0	5.5	31.2	1.5	19.4	3.1
Simara Airport	1757.3	97.2	25.0	-5.6	12.5	-5.7	0.5	1.4	22.5	-1.2	9.7	0.7	122.8	63.3	34.3	0.5	19.5	0.8	1590.0	105.8	34.1	0.7	25.9	0.6	44.0	60.7	30.9	0.4	19.0	2.0
Simikot	891.2	-	12.2	-	-0.3	-	67.4	-	10.7	-	-1.8	-	68.9	-	17.4	-	5.1	-	736.3	-	21.8	-	12.5	-	7.0	-	17.0	-	3.9	-
Sindhuli Madhi	2654.3	-	-	-	9.4	-	9.9	-	-	-	7.0	-	265.7	80.4	33.0	-	15.4	-	2184.7	-	32.7	-	22.8	-	194.0	205.7	29.2	0.5	16.3	0.6
Siraha	1359.5	97.3	26.6	-	14.5	-	0.0	0.0	24.1	-	11.7	-	147.8	78.8	34.8	-	20.8	-	1210.9	108.2	34.5	-	26.0	-	0.8	1.3	32.3	-	19.9	-
Surkhet Airport	1592.9	101.9	25.0	-3.7	9.2	-6.3	12.9	12.8	22.9	1.0	6.4	-0.1	96.0	70.2	33.6	1.5	17.1	0.8	1485.3	115.3	33.7	2.0	23.9	1.0	0.3	0.8	29.2	1.7	15.0	1.8
Syangja	3348.4	114.9	23.2	-4.2	10.1	-4.9	2.6	4.0	20.9	-0.3	7.8	0.5	444.5	103.1	30.6	1.2	15.4	0.8	2836.5	122.0	32.2	1.2	22.7	1.2	65.8	71.1	27.4	0.7	16.2	2.0
Tamghas	1968.8	107.3	18.2	-4.6	7.9	-4.6	7.7	9.5	16.3	-0.2	5.8	0.3	119.5	50.7	25.6	0.6	14.0	1.0	1816.8	123.6	26.7	0.3	18.9	0.7	26.7	55.7	22.0	0.1	12.2	1.0
Tansen	1992.3	-	22.5	-	11.2	-3.2	0.0	-	21.0	-	9.3	1.6	109.1	67.8	29.2	0.5	17.5	2.2	1883.1	147.8	29.4	-	21.3	2.1	0.0	0.0	26.5	-	15.5	2.3
Taplejung	1950.9	101.8	18.3	-3.2	7.7	-4.3	8.1	15.4	16.6	0.8	5.7	0.4	305.3	72.1	23.2	0.7	12.9	0.8	1591.9	117.5	26.3	1.1	18.4	0.8	50.9	59.6	22.3	1.2	11.7	0.8
Tarahara	2257.1	117.3	27.1	-2.9	12.9	-5.5	2.0	6.1	25.1	0.7	10.4	0.6	333.1	120.1	33.2	1.0	19.1	0.2	1717.0	112.9	33.7	1.3	26.0	1.0	206.9	219.9	32.2	1.8	19.0	1.6
Taulihawa	2108.5	155.5	24.5	-	12.1	-	4.1	8.5	21.7	-1.5	9.3	-	58.3	65.3	35.7	0.6	19.2	-0.1	1986.0	167.7	33.9	0.2	26.4	-	60.6	177.3	30.9	-	18.7	-
Terhathum	1184.3	115.6	19.9	-3.9	9.0	-	10.3	25.5	18.4	-0.4	7.1	0.8	255.6	102.3	24.6	0.2	14.4	-	900.2	129.1	26.9	0.3	19.1	1.3	21.6	59.2	24.0	-0.5	13.5	1.6
Thakmarpha	376.5	91.1	13.7	-3.9	-0.8	-6.0	7.3	17.1	11.7	-0.7	-2.9	-1.4	67.6	63.9	18.2	0.3	3.7	-0.8	305.1	130.4	22.1	0.5	11.4	-0.4	0.7	2.3	17.3	0.6	2.9	0.0
Tikapur	1673.6	102.3	-	-	9.8	-7.7	17.1	19.6	21.5	-1.2	9.2	1.0	63.5	57.0	36.0	0.8	18.3	0.2	1597.9	114.4	-	-	22.9	-2.2	0.5	1.3	31.1	1.3	15.5	-0.1
Udayapur Gadhi	-	-	-	-	-	-	1.7	5.6	24.0	-	10.4	-	230.2	107.0	32.3	-	18.4	-	1715.2	125.1	32.0	0.9	24.4	0.4	86.0	115.3	29.3	0.5	18.2	-0.4

Note: PoN = Percentage of Normal; DFN = Departure from normal