



15<sup>th</sup> August 2023

## Preliminary Precipitation and Temperature Summary July, 2023

### Highlights

Nepal experienced isolated to scattered rain/thundershowers, with fairly widespread heavy rain/thundershowers in some parts of the country during first, second and third week of July and light to moderate rain/thundershowers with intermittent heavy rain in some places during fourth week of July. Maximum and minimum temperature were warmer than normal during July.

### Synoptic Sequences

The monsoon trough was south of its normal position during most week except in 2<sup>nd</sup> week of July when eastern part of monsoon trough was north of its normal position.

### Precipitation

Large part of Madhesh Province, Bagamati Province, Lumbini Province and Karnali Province, eastern and central part of Koshi Province and some isolated parts of Gandaki Province and Sudurpaschim Province recorded below normal precipitation during July. However, remaining parts of the country including large part of Gandaki Province and Sudurpaschim Province recorded near-normal to above normal precipitation (Figure 1).

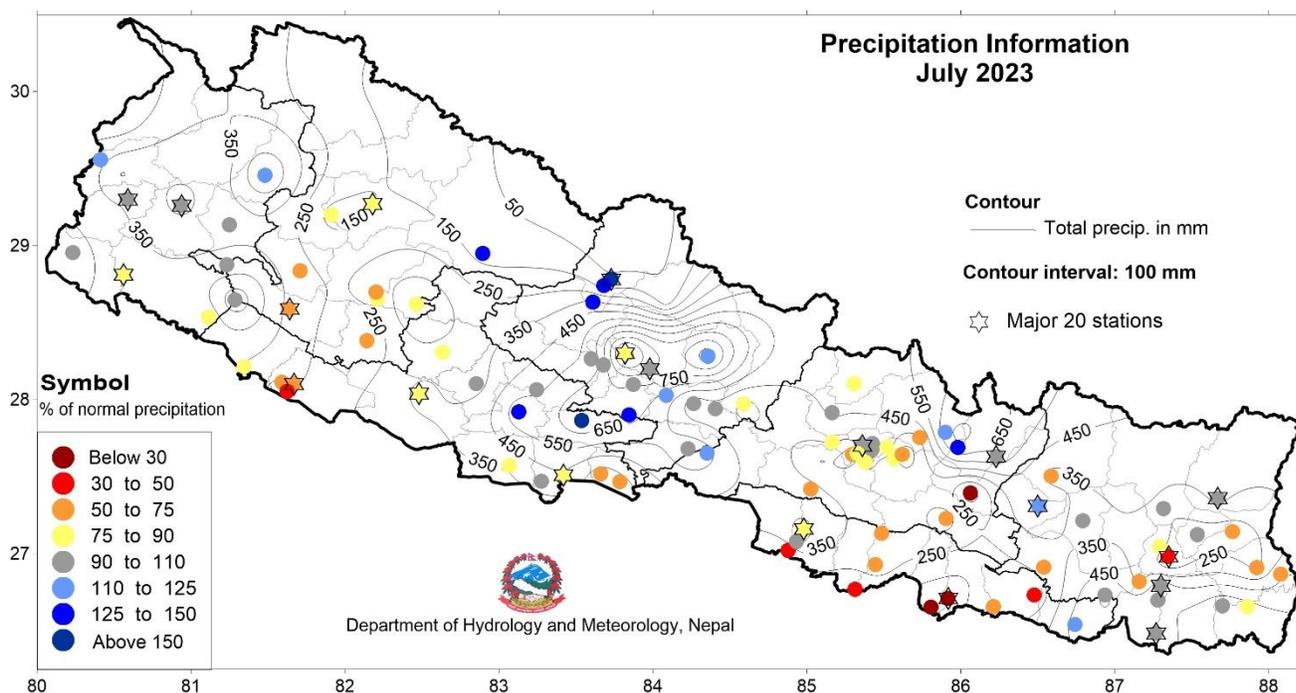


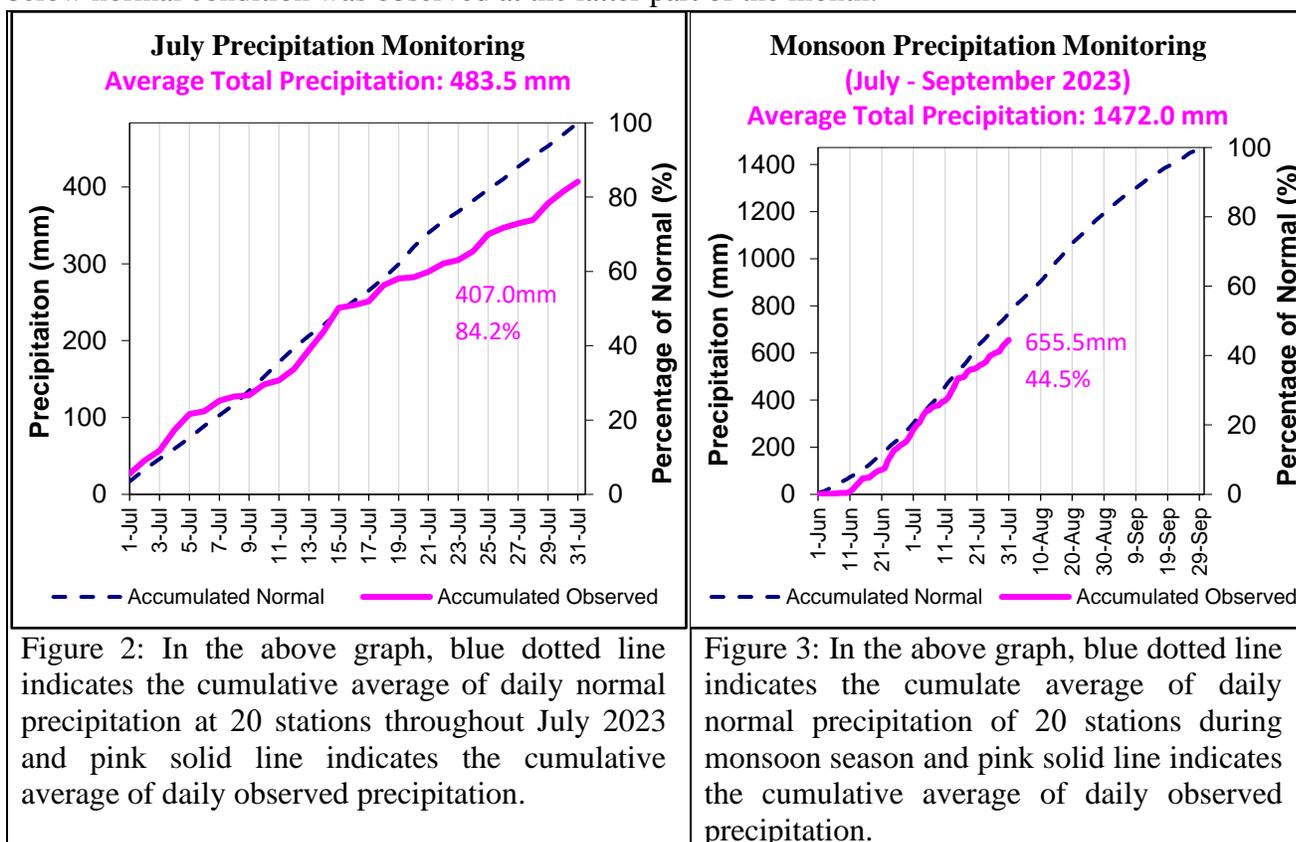
Figure 1: Precipitation in July 2023. Contour lines indicate the total precipitation in mm and coloured circles indicate the percentage of monthly normal precipitation at the meteorological stations.



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Rajbiraj station of Saptari district recorded the highest 24-hours precipitation of 185.2 mm on 5<sup>th</sup> July 2023. The highest monthly total precipitation of 1156.0 mm was recorded at Lumle station of Kaski district while the lowest monthly total precipitation of 65.6 mm was recorded at Jaleswor of Mahottari district. Similarly, the highest (159.9%) and the lowest (24.3%) percentage of monthly normal precipitation were recorded at Tansen station of Palpa district and Janakpur Airport station of Dhanusha district respectively (Annex 1). Based on the average of 99 stations shown in figure 1, Nepal received 86.3% of the normal precipitation of the month. However, based on the average of 20 major stations shown in figure 1, Nepal received 84.2% of monthly normal precipitation. In general, 90 to 110% of normal precipitation is considered as the near normal precipitation for the month.

Figures 2 and 3, respectively, show the temporal distribution of monthly and monsoon seasonal cumulative average of daily precipitation at 20 major stations located as shown in figure 1. The timeseries of precipitation shows that precipitation was near-normal until the third week of July and below normal condition was observed at the latter part of the month.



### Maximum Temperature

Most part of the country recorded above normal maximum temperature during July. However, some isolated part over the country recorded near-normal to above maximum temperature (Figure 4). Northern part of the country recorded less than 20°C while southern plain recorded above 30°C.



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Compared to other stations, Birganj station of Parsa district and Humde station of Manang district recorded the highest and lowest monthly maximum temperature of 35.5°C and 19.0°C respectively. Similarly, the highest monthly anomaly of 2.0°C was recorded at Dhulikhel station of Kavrepalanchok district and the lowest anomaly of -2.0°C was recorded at Semari station of Nawalparasi-West district (Annex 1). The highest daily maximum temperature of 39.5°C was recorded at Gulariya station of Bardiya district on 21<sup>st</sup> July while the lowest daily maximum temperature of 13.0°C was recorded at Humde of Manang district on 1<sup>st</sup> July. Some of the stations broke the July's highest record of maximum temperature in this July.

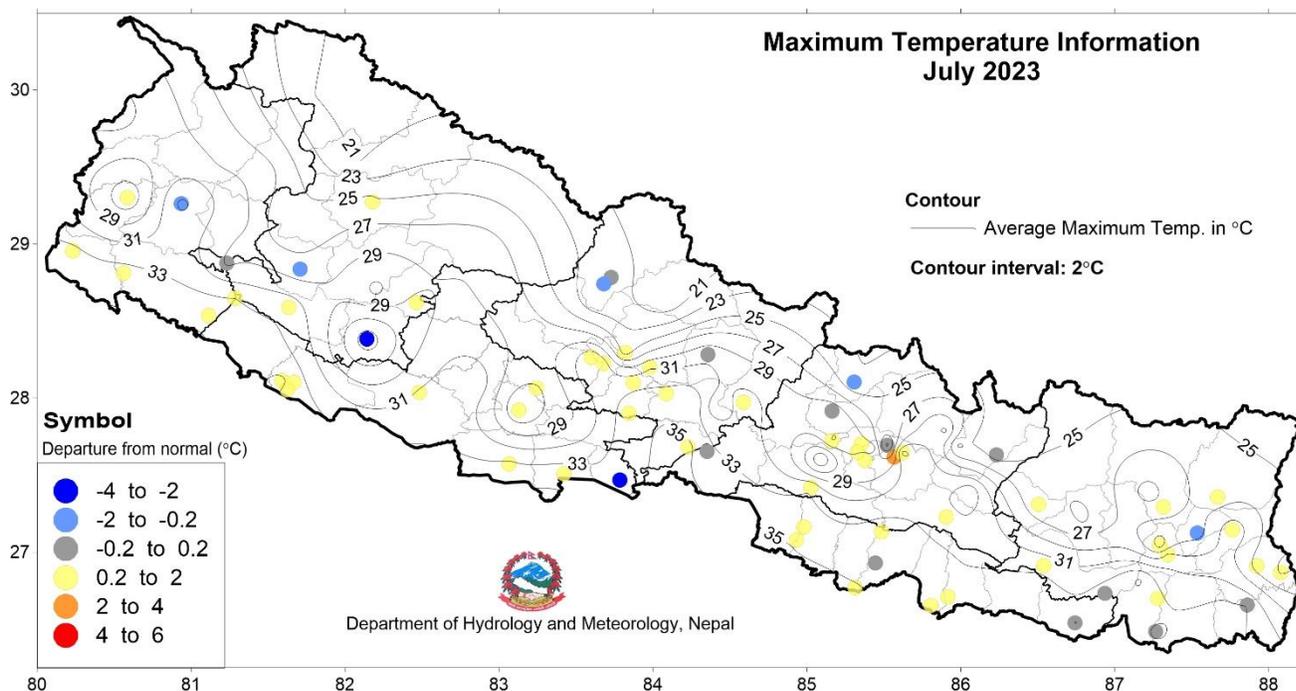


Figure 4: Maximum Temperature in July 2023. Contour lines indicate the average maximum temperature in Degree Celsius and coloured circles indicate the departure from normal maximum temperature at the meteorological stations.

### Minimum Temperature

Most parts of the country recorded above normal minimum temperature during July. However, some isolated parts over the country recorded near-normal to below normal minimum temperature (Figure 5). There was sharp decrease in the temperature from southern to northern parts of the country. Southern parts recorded monthly minimum temperature more than 25°C while northern parts recorded less than 15°C.

Compared to other stations, Janakpur Airport station of Dhanusha district and Humde station of Manang district recorded the highest and lowest monthly minimum temperature of 27.9°C and 11.0°C respectively. Similarly, the highest monthly anomaly of 2.1°C was recorded at Chainpur station of Sankhuwasava district and the lowest anomaly of -3.0°C was recorded at Jomsom station of Mustang district (Annex 1). The highest daily minimum temperature of 30.0°C was recorded at Semari station



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of Nawalparasi-West district on 21<sup>st</sup> July while the lowest daily minimum temperature of 6.0°C was recorded at Nagma station of Kalikot district on 1<sup>st</sup> July. Some of the stations broke the July's lowest record of minimum temperature in this July.

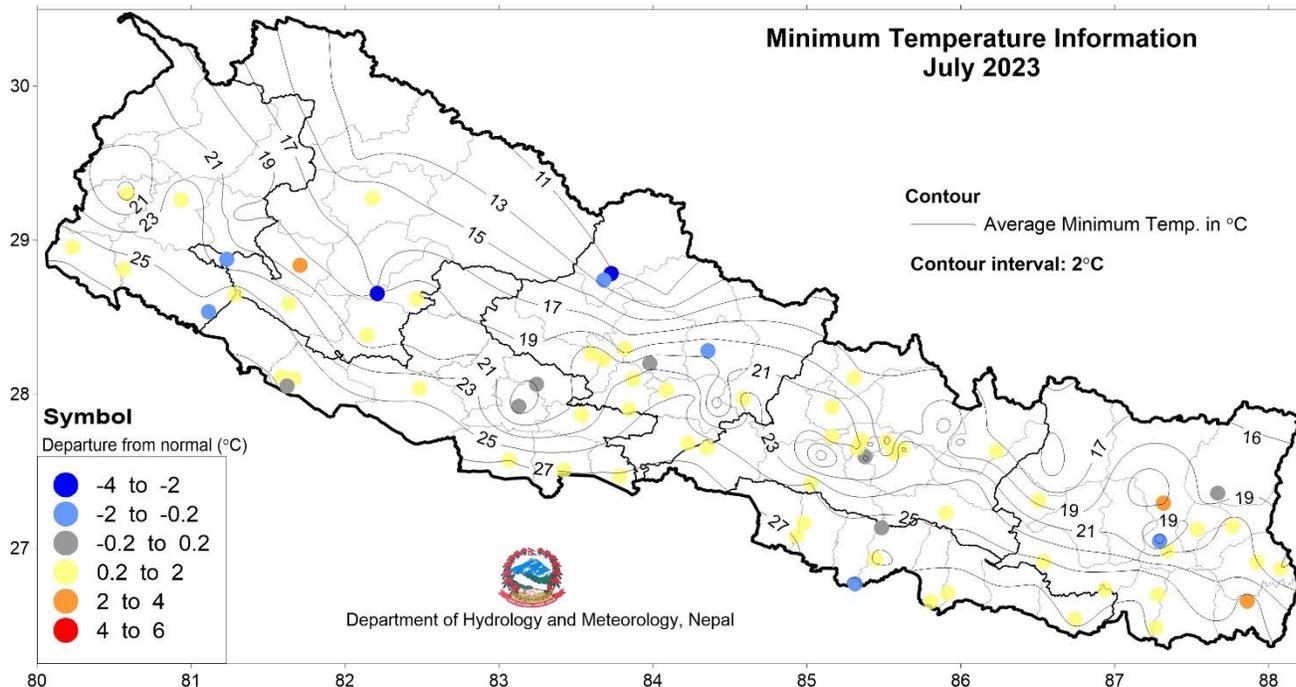


Figure 5: Minimum Temperature in July 2023. Contour lines indicate the average minimum temperature in Degree Celsius and coloured circles indicate the departure from normal minimum temperature at the meteorological stations.

## Extreme Weather

### 1. Drought

Moderate to severe drought condition has been observed over large part of Madhesh Province, eastern part of Koshi Province, southern part of Karnali Province and isolated part of Bagamati Province and Lumbini Province in July. Manthali, Jaleshore and Janakpur Airport stations recorded below normal precipitation by 70% indicating extreme drought over the region (Annex 1). Similarly, Nepaljung, Birganj, Lahan, Dhankuta and Gaur stations recorded below normal precipitation by 50% indicating severe drought condition in this July. However, wet condition has been observed over large part of Gandaki Province.

Drought has been categorized based on the observed precipitation compared to normal. A drought is defined as moderate, severe and extreme as given in the table below.

| S.N. | Percentage of normal precipitation (%) | Drought category |
|------|--|------------------|
| 1    | 50 - 75                                | Moderate drought |
| 2    | 30 - 50                                | Severe drought   |
| 3    | < 30                                   | Extreme drought  |



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## 2. Historical record break

In this July, several stations broke the previous record of July's extremes of maximum and minimum temperature (Table 1 and 2).

Table 1: List of stations breaking the July's highest daily maximum temperature in July 2023.

| S.N. | Station Name        | District | Record break maximum temperature (°C)/Date | Previous highest maximum temperature (°C)/Date |
|------|---------------------|----------|--|--|
| 1    | Gorkha (Birenchowk) | Gorkha   | 35.5/2023-07-20                            | 35.0/2006-07-03                                |
| 2    | Gulariya            | Bardiya  | 39.5/2023-07-21                            | 38.0/2022-07-15                                |
| 3    | Jajarkot            | Jajarkot | 35.5/2023-07-23                            | 35.0/2017-07-10                                |

Table 4: List of stations breaking July's lowest daily minimum temperature in July 2023.

| S.N. | Station Name | District         | Record break minimum temperature (°C)/Date | Previous lowest minimum temperature (°C)/Date |
|------|--------------|------------------|--|---|
| 1    | Parasi       | Nawalparasi-West | 16.0/2023-07-04                            | 20.2/2013-07-04                               |
| 2    | Nagma        | Kalikot          | 6.0/2023-07-01                             | 7.5/2014-07-02                                |



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**Annex 1: Monthly precipitation and temperature data of July 2023**

| Station               | Latitude | Longitude | Elevation | Precipitation |             |                   |         |         |         | Temperature                          |              |                            |                            |              | No. of days with maximum temp. > 30°C |                            |                           |
|-----------------------|----------|-----------|-----------|---------------|-------------|-------------------|---------|---------|---------|--------------------------------------|--------------|----------------------------|----------------------------|--------------|---------------------------------------|----------------------------|---------------------------|
|                       |          |           |           | Total (mm)    | % of Normal | No. of Rainy Days |         |         |         | 24hr Highest precipitation (mm)/Date | Maximum      |                            |                            | Minimum      |                                       |                            |                           |
|                       |          |           |           |               |             | ≥1.0mm            | ≥10.0mm | ≥25.0mm | ≥50.0mm |                                      | Average (°C) | Departure from normal (°C) | Highest temperature / Date | Average (°C) |                                       | Departure from normal (°C) | Lowest temperature / Date |
| Baglung               | 28.2636  | 83.6003   | 964       | 582.9         | 106.3       | 27.0              | 15.0    | 9.0     | 3.0     | 70.6/31                              | 32.7         | 1.4                        | 36.5/20                    | 22.1         | 0.3                                   | 18.8/2                     | 28                        |
| Bahrabise             | 27.7887  | 85.9000   | 884       | 723.4         | 110.2       | 31.0              | 22.0    | 11.0    | 2.0     | 91.3/13                              | 31.4         | -                          | 34.5/31                    | 22.4         | -                                     | 21.5/8                     | 24                        |
| Baitadi (Gothalapani) | 29.5574  | 80.4132   | 1352      | 375.4         | 119.9       | 20.0              | 12.0    | 7.0     | 1.0     | 51.6/23                              | 29.7         | -                          | 35.3/31                    | 20.8         | -                                     | 19.5/5                     | 17                        |
| Bajura (Martadi)      | 29.4570  | 81.4804   | 1598      | 570.8         | 111.5       | 31.0              | 17.0    | 9.0     | 1.0     | 50/4                                 | 28.1         | -                          | 30.4/31                    | 19.7         | -                                     | 15.9/2                     | 3                         |
| Bandipur              | 27.9418  | 84.4064   | 991       | 413.6         | 94.9        | 21.0              | 11.0    | 5.0     | 3.0     | 81.7/25                              | 29.4         | -                          | 31/8                       | 17.6         | -                                     | 16/2                       | 14                        |
| Bhairahawa Airport    | 27.5068  | 83.4204   | 108       | 435.3         | 87.4        | 17.0              | 9.0     | 5.0     | 3.0     | 97.6/2                               | 34.2         | 0.7                        | 37.2/20                    | 26.9         | 0.6                                   | 24.5/31                    | 29                        |
| Bhaktapur             | 27.6767  | 85.4240   | 1315      | 330.7         | 97.1        | 25.0              | 12.0    | 4.0     | 0.0     | 39.2/31                              | 30.6         | -                          | 33/11                      | 21.6         | -                                     | 20.5/8                     | 23                        |
| Bijjuwar Tar          | 28.1035  | 82.8520   | 835       | 302.1         | 98.2        | 16.0              | 8.0     | 4.0     | 1.0     | 94.8/25                              | 32.6         | -                          | 35.1/20                    | 23.5         | -                                     | 21.9/18                    | 28                        |
| Biratnagar Airport    | 26.4840  | 87.2670   | 72        | 482.7         | 101.5       | 15.0              | 10.0    | 7.0     | 5.0     | 108/14                               | 32.8         | 0.2                        | 36.1/20                    | 26.7         | 0.8                                   | 25/1                       | 28                        |
| Birganj               | 27.0232  | 84.8782   | 67        | 236.3         | 49.7        | 14.0              | 8.0     | 3.0     | 0.0     | 42.5/12                              | 35.5         | -                          | 38/20                      | 27.4         | -                                     | 20/20                      | 30                        |
| Chainpur (East)       | 27.2921  | 87.3170   | 1277      | 256.0         | 93.0        | 19.0              | 9.0     | 3.0     | 1.0     | 62.4/21                              | 28.4         | 0.8                        | 30.2/15                    | 21.1         | 2.1                                   | 19/5                       | 8                         |
| Chainpur (Bajhang)    | 29.5459  | 81.2011   | 1405      | 291.5         | -           | 27.0              | 10.0    | 3.0     | 0.0     | 41/24                                | 28.5         | -                          | 31.4/20                    | -            | -                                     | -                          | 10                        |
| Changu Narayan        | 27.7161  | 85.4268   | 1502      | 396.3         | 97.8        | 25.0              | 15.0    | 6.0     | 0.0     | 48.2/25                              | 28.4         | -                          | 30.5/22                    | 19.7         | -                                     | 17.2/5                     | 6                         |
| Chapakot              | 27.8999  | 83.8459   | 617       | 691.5         | 140.7       | 19.0              | 11.0    | 8.0     | 6.0     | 105.2/4                              | 34.1         | 1.6                        | 36.7/20                    | 24.3         | 0.8                                   | 22/22                      | 28                        |
| Charikot              | 27.6902  | 85.9802   | 2132      | 747.4         | 130.3       | 29.0              | 21.0    | 14.0    | 2.0     | 71.5/4                               | 24.7         | -                          | 26.8/25                    | 16.4         | -                                     | 15/9                       | 0                         |
| Chatara               | 26.8204  | 87.1592   | 105       | 329.7         | 58.7        | 18.0              | 11.0    | 3.0     | 1.0     | 105/13                               | 35.3         | -                          | 38.6/31                    | 26.1         | -                                     | 23.1/2                     | 31                        |
| Chaurjhari Tar        | 28.6540  | 82.2103   | 863       | 265.2         | 77.6        | 21.0              | 9.0     | 5.0     | 0.0     | 42/24                                | -            | -                          | -                          | 20.0         | -2.8                                  | 18.2/26                    | -                         |
| Chautara              | 27.7538  | 85.7321   | 1552      | 331.1         | 69.4        | 21.0              | 14.0    | 5.0     | 0.0     | 38.4/18                              | 29.7         | -                          | 33.5/12                    | 18.5         | -                                     | 15/9                       | 15                        |
| Chisapani (Karnali)   | 28.6472  | 81.2854   | 201       | 638.6         | 91.1        | 22.0              | 15.0    | 9.0     | 5.0     | 95.3/21                              | 33.0         | 1.0                        | 35.5/8                     | 26.1         | 0.8                                   | 21/25                      | 29                        |
| Dadeldhura            | 29.3014  | 80.5878   | 1879      | 336.4         | 103.9       | 27.0              | 12.0    | 2.0     | 1.0     | 64.2/31                              | 25.1         | 0.5                        | 29.4/20                    | 18.1         | 0.6                                   | 17.1/5                     | 0                         |
| Dailekh               | 28.8381  | 81.7085   | 1394      | 280.9         | 60.8        | 27.0              | 9.0     | 2.0     | 1.0     | 61.2/5                               | 27.8         | -1.2                       | 30.8/20                    | 19.7         | 2.0                                   | 17.6/19                    | 3                         |
| Damak                 | 26.6623  | 87.6988   | 119       | 642.4         | 100.0       | 22.0              | 13.0    | 7.0     | 4.0     | 113.9/13                             | 33.3         | -                          | 37/19                      | 23.2         | -                                     | 21/31                      | 27                        |
| Daman                 | 27.6044  | 85.0920   | 2265      | 244.7         | -           | 29.0              | 9.0     | 2.0     | 0.0     | 44.5/13                              | 22.7         | -                          | 26.7/20                    | 15.4         | -                                     | 14.2/8                     | 0                         |
| Damauli               | 27.9737  | 84.2651   | 347       | 371.2         | 92.4        | 16.0              | 6.0     | 5.0     | 3.0     | 128/25                               | 34.6         | -                          | 38/20                      | 25.3         | -                                     | 24/18                      | 30                        |
| Darchula New          | 29.8429  | 80.5388   | 887       | 556.4         | -           | 26.0              | 17.0    | 9.0     | 2.0     | 79.5/15                              | 31.9         | -                          | 36.3/20                    | 22.7         | -                                     | 20.8/4                     | 21                        |
| Dhangadhi (Attariya)  | 28.8127  | 80.5600   | 184       | 412.2         | 77.6        | 24.0              | 10.0    | 6.0     | 1.0     | 109.6/5                              | 33.8         | 0.6                        | 37.9/20                    | 26.1         | 0.3                                   | 24/1                       | 31                        |
| Dhankuta              | 26.9832  | 87.3460   | 1192      | 92.1          | 38.5        | 14.0              | 1.0     | 0.0     | 0.0     | 17.4/13                              | 29.4         | 1.7                        | 32.1/22                    | 20.9         | 0.2                                   | 20.1/5                     | 10                        |
| Dharan Bazar          | 26.7922  | 87.2978   | 310       | 515.0         | 94.7        | 17.0              | 11.0    | 8.0     | 1.0     | 168.4/13                             | 32.6         | -                          | 35.5/19                    | 25.6         | -                                     | 24.2/13                    | 30                        |
| Dhulikhel             | 27.6161  | 85.5655   | 1543      | 304.1         | 78.4        | 21.0              | 12.0    | 4.0     | 0.0     | 43/13                                | 27.8         | 2.0                        | 30/8                       | 19.2         | 0.3                                   | 18.5/1                     | 3                         |
| Dhunche               | 28.1053  | 85.3077   | 2005      | 456.5         | 83.9        | 28.0              | 19.0    | 7.0     | 0.0     | 39/18                                | 23.2         | -0.9                       | 27.6/20                    | 17.4         | 1.0                                   | 16.2/26                    | 0                         |
| Dhunibesi             | 27.7229  | 85.1643   | 991       | 365.5         | 88.5        | 23.0              | 13.0    | 7.0     | 0.0     | 42.4/24                              | 31.2         | 0.6                        | 34.5/22                    | 22.6         | 0.5                                   | 21/17                      | 26                        |
| Diktel                | 27.2125  | 86.7919   | 1612      | 307.9         | 91.3        | 22.0              | 10.0    | 4.0     | 1.0     | 62.2/4                               | 24.6         | -                          | 27.5/19                    | 19.2         | -                                     | 17.5/4                     | 0                         |
| Dipayal (Doti)        | 29.2621  | 80.9369   | 563       | 223.6         | 97.0        | 18.0              | 6.0     | 2.0     | 2.0     | 58.4/1                               | 33.5         | -0.6                       | 37/20                      | 25.0         | 0.6                                   | 23.9/1                     | 30                        |
| Dumkauli              | 27.6807  | 84.2285   | 183       | 612.1         | 99.4        | 13.0              | 12.0    | 11.0    | 4.0     | 142/12                               | 35.5         | 1.8                        | 39/21                      | 26.2         | 0.4                                   | 20/25                      | 30                        |
| Dunai                 | 28.9507  | 82.8960   | 2098      | 107.1         | 126.8       | 24.0              | 3.0     | 0.0     | 0.0     | 20.5/15                              | 28.7         | -                          | 31/30                      | 15.4         | -                                     | 14.5/2                     | 9                         |
| Gaida (Kankai)        | 26.6569  | 87.8607   | 107       | 591.6         | 80.5        | 24.0              | 14.0    | 8.0     | 5.0     | 107.2/13                             | 32.9         | -0.1                       | 36.7/31                    | 26.2         | 2.1                                   | 23.5/9                     | 26                        |
| Gaur                  | 26.7671  | 85.3130   | 77        | 129.4         | 34.6        | 7.0               | 4.0     | 2.0     | 0.0     | 45/30                                | 35.2         | 1.4                        | 37.8/19                    | 24.5         | -1.0                                  | 22.4/2                     | 30                        |
| Ghorai (Dang)         | 28.0372  | 82.4842   | 663       | 374.2         | 88.9        | 25.0              | 10.0    | 7.0     | 1.0     | 59.8/25                              | 31.2         | 0.8                        | 33.7/20                    | 24.4         | 1.3                                   | 22.7/1                     | 26                        |
| Godavari              | 27.5929  | 85.3788   | 1527      | 370.9         | 82.0        | 24.0              | 10.0    | 7.0     | 1.0     | 51.5/5                               | 27.0         | 1.1                        | 30/31                      | 18.7         | 0.2                                   | 17.5/8                     | 1                         |
| Gorkha (Birenchowk)   | 27.9714  | 84.5894   | 724       | 315.6         | 76.5        | 19.0              | 10.0    | 4.0     | 1.0     | 85.7/15                              | 32.0         | 1.2                        | 35.5/20                    | 23.7         | 0.9                                   | 21.5/15                    | 27                        |
| Gulariya              | 28.2128  | 81.3452   | 126       | 339.5         | 88.1        | 14.0              | 6.0     | 2.0     | 1.0     | 164.8/25                             | 34.0         | -                          | 39.5/21                    | 27.1         | -                                     | 24.5/25                    | 29                        |
| Hardinath             | 26.8000  | 85.9833   | 93        | 116.6         | -           | 9.0               | 2.0     | 2.0     | 1.0     | 61.2/5                               | 33.2         | -                          | 36/19                      | 27.5         | -                                     | 24.7/2                     | 30                        |
| Hetauda N.F.I.        | 27.4202  | 85.0252   | 452       | 385.1         | 56.3        | 21.0              | 10.0    | 5.0     | 1.0     | 74.3/14                              | 32.7         | 0.5                        | 35.2/22                    | 25.2         | 1.4                                   | 23.3/15                    | 31                        |
| Humde                 | 28.6399  | 84.0881   | 3401      | 84.8          | -           | 16.0              | 0.0     | 0.0     | 0.0     | 9.8/2                                | 19.0         | -                          | 22.5/31                    | 11.0         | -                                     | 9.2/8                      | 0                         |
| Ilam Tea Estate       | 26.9096  | 87.9231   | 1208      | 224.0         | 57.4        | 18.0              | 8.0     | 4.0     | 0.0     | 43.7/4                               | 26.2         | 0.2                        | 28.9/23                    | 21.0         | 1.9                                   | 19.8/15                    | 0                         |
| Jajarkot              | 28.6990  | 82.2001   | 1236      | 318.8         | 72.1        | 22.0              | 13.0    | 3.0     | 0.0     | 41.8/14                              | 31.6         | -                          | 35.5/23                    | 16.7         | -                                     | 14/2                       | 28                        |
| Jalesor               | 26.6522  | 85.8073   | 68        | 65.6          | 24.8        | 8.0               | 3.0     | 0.0     | 0.0     | 24/5                                 | 34.6         | 0.7                        | 37.5/31                    | 27.5         | 1.6                                   | 25/2                       | 31                        |
| Janakpur Airport      | 26.7097  | 85.9172   | 76        | 106.6         | 24.3        | 10.0              | 4.0     | 0.0     | 0.0     | 20/5                                 | 34.2         | 1.3                        | 38/31                      | 27.9         | 1.4                                   | 25/5                       | 30                        |



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| Station             | Latitude | Longitude | Elevation | Precipitation |             |                   |         |         |         | Temperature                          |              |                            |                            |              |                            |                           |                                       |
|---------------------|----------|-----------|-----------|---------------|-------------|-------------------|---------|---------|---------|--------------------------------------|--------------|----------------------------|----------------------------|--------------|----------------------------|---------------------------|---------------------------------------|
|                     |          |           |           | Total (mm)    | % of Normal | No. of Rainy Days |         |         |         | 24hr Highest precipitation (mm)/Date | Maximum      |                            |                            | Minimum      |                            |                           | No. of days with maximum temp. > 30°C |
|                     |          |           |           |               |             | ≥1.0mm            | ≥10.0mm | ≥25.0mm | ≥50.0mm |                                      | Average (°C) | Departure from normal (°C) | Highest temperature / Date | Average (°C) | Departure from normal (°C) | Lowest temperature / Date |                                       |
| Jiri                | 27.6304  | 86.2321   | 1877      | 625.0         | 98.1        | 27.0              | 17.0    | 10.0    | 3.0     | 70.5/10                              | 24.1         | -0.1                       | 26.6/22                    | 17.6         | 0.4                        | 13.6/6                    |                                       |
| Jomsom              | 28.7840  | 83.7298   | 2741      | 72.5          | 155.0       | 16.0              | 2.0     | 0.0     | 0.0     | 11.4/7                               | 22.9         | 0.1                        | 25/13                      | 11.1         | -3.0                       | 9.5/7                     | 0                                     |
| Jumla               | 29.2747  | 82.1796   | 2363      | 138.9         | 78.2        | 24.0              | 4.0     | 0.0     | 0.0     | 17.3/16                              | 25.8         | 0.7                        | 28.4/21                    | 16.5         | 0.6                        | 15.7/14                   | 0                                     |
| Jumla Airport       | 29.2740  | 82.1942   | 2384      | 154.4         | -           | 22.0              | 4.0     | 0.0     | 0.0     | 22/16                                | 25.3         | -                          | 28/21                      | 16.4         | -                          | 15.6/5                    | 0                                     |
| Kanyam Tea Estate   | 26.8681  | 88.0783   | 1570      | 436.5         | 56.6        | 26.0              | 11.0    | 5.0     | 4.0     | 112.2/4                              | 24.8         | 1.9                        | 29/19                      | 19.0         | 1.9                        | 17.6/18                   | 0                                     |
| Karmaiya            | 27.1330  | 85.4841   | 139       | 285.2         | 52.2        | 18.0              | 8.0     | 5.0     | 0.0     | 45/30                                | 34.1         | 0.6                        | 36.5/11                    | 26.2         | 0.0                        | 25/14                     | 30                                    |
| Kathmandu Airport   | 27.7038  | 85.3562   | 1337      | 399.1         | 104.0       | 28.0              | 12.0    | 6.0     | 2.0     | 75.2/18                              | 29.5         | 0.8                        | 32.3/20                    | 20.8         | 0.5                        | 19.6/18                   | 14                                    |
| Khadbari            | 27.3911  | 87.2044   | 1064      | 401.7         | -           | 23.0              | 14.0    | 5.0     | 1.0     | 54.6/14                              | 29.8         | -                          | 32.5/9                     | 22.9         | -                          | 21/5                      | 19                                    |
| Khairini Tar        | 28.0270  | 84.0866   | 515       | 610.3         | 118.4       | 22.0              | 11.0    | 7.0     | 5.0     | 115.5/30                             | 33.5         | 0.7                        | 35.8/20                    | 24.4         | 0.2                        | 22.6/15                   | 29                                    |
| Khajura (Nepalganj) | 28.1137  | 81.5903   | 129       | 235.4         | 60.3        | 16.0              | 8.0     | 4.0     | 0.0     | 44.6/5                               | 35.4         | 1.6                        | 38/22                      | 26.9         | 1.0                        | 24.8/1                    | 30                                    |
| Khanchikot          | 27.9221  | 83.1298   | 1801      | 622.7         | 129.8       | 19.0              | 10.0    | 6.0     | 4.0     | 178.3/4                              | 24.9         | 1.4                        | 29/20                      | 17.7         | 0.0                        | 16.5/1                    | 0                                     |
| Khokana             | 27.6438  | 85.2967   | 1309      | 177.6         | 52.0        | 21.0              | 7.0     | 1.0     | 0.0     | 26.5/31                              | 29.2         | -                          | 30.6/11                    | 20.7         | -                          | 19.4/31                   | 4                                     |
| Khudi Bazar         | 28.2822  | 84.3564   | 838       | 1042.2        | 119.6       | 28.0              | 22.0    | 17.0    | 7.0     | 131.7/4                              | 30.5         | -0.1                       | 36.5/31                    | 20.6         | -1.0                       | 17.5/29                   | 21                                    |
| Khumaltar           | 27.6517  | 85.3257   | 1334      | 221.3         | 76.6        | 24.0              | 7.0     | 1.0     | 0.0     | 34.5/5                               | 29.2         | 1.4                        | 31.2/11                    | 21.2         | 0.7                        | 19.6/25                   | 10                                    |
| Kushma              | 28.2249  | 83.6769   | 900       | 683.4         | 97.4        | 23.0              | 17.0    | 11.0    | 5.0     | 80.8/21                              | 32.0         | 0.8                        | 35/20                      | 22.3         | 0.5                        | 21/1                      | 29                                    |
| Lahan               | 26.7327  | 86.4776   | 110       | 161.5         | 47.8        | 12.0              | 6.0     | 1.0     | 0.0     | 35.1/5                               | 34.2         | -                          | 37/19                      | 27.3         | -                          | 25/13                     | 31                                    |
| Lete                | 28.6327  | 83.6092   | 2490      | 382.9         | 137.8       | 29.0              | 15.0    | 3.0     | 0.0     | 45.8/30                              | 21.5         | -                          | 26.5/20                    | 15.1         | -                          | 14/7                      | 0                                     |
| Libang Gaun         | 28.3062  | 82.6323   | 1314      | 326.8         | 88.9        | 20.0              | 12.0    | 4.0     | 0.0     | 46.2/27                              | 30.3         | -                          | 33.5/20                    | 19.5         | -                          | 18/19                     | 22                                    |
| Lumbini             | 27.4703  | 83.2761   | 95        | 385.0         | 97.7        | 16.0              | 8.0     | 5.0     | 2.0     | 111.5/31                             | 34.6         | -                          | 37.5/20                    | 27.6         | -                          | 25.5/18                   | 29                                    |
| Lumle               | 28.2965  | 83.8179   | 1738      | 1156.0        | 78.5        | 28.0              | 22.0    | 18.0    | 9.0     | 134.8/15                             | 24.1         | 0.3                        | 27/20                      | 18.0         | 0.2                        | 17/15                     | 0                                     |
| Mahendra Nagar      | 28.9548  | 80.2305   | 197       | 490.6         | 95.4        | 21.0              | 12.0    | 7.0     | 2.0     | 122/1                                | 33.5         | 0.2                        | 38/20                      | 26.5         | 0.8                        | 24.5/1                    | 29                                    |
| Mangalsen           | 29.1361  | 81.2501   | 1310      | 336.5         | 97.9        | 19.0              | 8.0     | 5.0     | 1.0     | 62.1/5                               | 29.5         | -                          | 33.6/20                    | 20.9         | -                          | 19.5/1                    | 15                                    |
| Manma               | 29.1488  | 81.6135   | 1729      | 286.1         | -           | 27.0              | 11.0    | 2.0     | 0.0     | 37.3/1                               | 25.1         | -                          | 28/20                      | 18.8         | -                          | 17/19                     | 0                                     |
| Manthali            | 27.3947  | 86.0612   | 497       | 77.0          | 28.5        | 17.0              | 1.0     | 0.0     | 0.0     | 10.4/22                              | 34.4         | -                          | 36.8/11                    | 24.4         | -                          | 23.5/8                    | 31                                    |
| Manusmara           | 26.9280  | 85.4451   | 90        | 320.5         | 73.1        | 12.0              | 6.0     | 5.0     | 1.0     | 113.2/4                              | 33.6         | 0.1                        | 36.5/19                    | 27.3         | 1.1                        | 25/13                     | 29                                    |
| Musikot(Rukumkot)   | 28.6190  | 82.4625   | 1412      | 480.0         | 83.3        | 28.0              | 16.0    | 8.0     | 0.0     | 47.5/21                              | 28.6         | 0.5                        | 31.8/20                    | 20.7         | 1.2                        | 19.6/15                   | 8                                     |
| Nagarkot            | 27.6933  | 85.5209   | 2147      | 414.4         | 86.8        | 27.0              | 9.0     | 5.0     | 3.0     | 64.3/18                              | 22.1         | -0.1                       | 28.5/1                     | 16.1         | 0.5                        | 15/6                      | 0                                     |
| Nagma               | 29.2006  | 81.9106   | 2017      | 114.9         | 77.5        | 21.0              | 2.0     | 0.0     | 0.0     | 12/5                                 | 25.8         | -                          | 29/21                      | 16.5         | -                          | 6/1                       | 0                                     |
| Nepalgunj Airport   | 28.1006  | 81.6682   | 165       | 255.9         | 53.0        | 17.0              | 10.0    | 4.0     | 0.0     | 48/12                                | 34.1         | 0.3                        | 37.5/20                    | 27.0         | 1.2                        | 25/1                      | 29                                    |
| Nepalgunj(Reg.Off.) | 28.0520  | 81.6228   | 141       | 191.7         | 49.7        | 11.0              | 6.0     | 3.0     | 1.0     | 59/5                                 | 34.6         | 1.2                        | 38/20                      | 26.7         | 0.1                        | 24.5/5                    | 30                                    |
| Nuwakot             | 27.9150  | 85.1646   | 966       | 463.1         | 95.1        | 24.0              | 15.0    | 6.0     | 2.0     | 56.4/18                              | 30.5         | 0.1                        | 32.5/11                    | 22.4         | 0.5                        | 20.6/26                   | 21                                    |
| Okhaldhunga         | 27.3081  | 86.5042   | 1731      | 479.5         | 114.7       | 21.0              | 11.0    | 6.0     | 3.0     | 92.9/24                              | 25.3         | 0.4                        | 27.3/20                    | 18.5         | 0.8                        | 16.8/25                   | 0                                     |
| Oli Gaun (Patkani)  | 29.1559  | 81.2831   | 989       | 296.2         | -           | 22.0              | 9.0     | 4.0     | 0.0     | 45.5/24                              | 30.5         | -                          | 31.6/14                    | 18.5         | -                          | 15.6/19                   | 24                                    |
| Pakhribas           | 27.0463  | 87.2925   | 1720      | 333.4         | 87.0        | 21.0              | 8.0     | 6.0     | 1.0     | 66/4                                 | 23.9         | 0.5                        | 26.5/22                    | 16.0         | -1.9                       | 15/10                     | 0                                     |
| Panchkhal           | 27.6451  | 85.6209   | 857       | 166.7         | 59.7        | 20.0              | 4.0     | 3.0     | 0.0     | 35/14                                | 33.6         | 1.7                        | 35.8/12                    | 23.5         | 1.0                        | 22.5/18                   | 31                                    |
| Parasi              | 27.5193  | 83.6622   | 112       | 289.6         | 62.7        | 15.0              | 10.0    | 5.0     | 0.0     | 42/15                                | 33.4         | -                          | 36/19                      | 26.8         | -                          | 16/4                      | 29                                    |
| Parwanipur          | 27.0789  | 84.9327   | 87        | 484.3         | 103.9       | 15.0              | 7.0     | 5.0     | 4.0     | 153.5/29                             | 33.8         | 0.8                        | 36.5/20                    | 26.8         | 0.5                        | 24.5/13                   | 30                                    |
| Patan new           | 29.4664  | 80.5506   | 1299      | 241.2         | -           | 24.0              | 8.0     | 2.0     | 0.0     | 34/25                                | -            | -                          | -                          | -            | -                          | -                         | -                                     |
| Phattepur           | 26.7305  | 86.9348   | 101       | 568.7         | 108.8       | 15.0              | 10.0    | 9.0     | 4.0     | 98.5/24                              | 33.8         | 0.0                        | 38.4/21                    | 26.5         | 1.0                        | 20.6/24                   | 30                                    |
| Phidim (Panchther)  | 27.1437  | 87.7656   | 1157      | 201.6         | 68.5        | 19.0              | 8.0     | 2.0     | 0.0     | 43.3/21                              | 30.5         | 1.3                        | 33.2/22                    | 22.2         | 0.6                        | 21/15                     | 23                                    |
| Pokhara Airport     | 28.2002  | 83.9795   | 827       | 870.4         | 92.5        | 22.0              | 17.0    | 9.0     | 4.0     | 174.4/30                             | 30.8         | 0.4                        | 33.6/20                    | 22.5         | 0.1                        | 18.8/26                   | 23                                    |
| Pusma Camp          | 28.8755  | 81.2327   | 953       | 381.8         | 91.5        | 19.0              | 8.0     | 5.0     | 3.0     | 70.9/1                               | 28.7         | 0.0                        | 31/19                      | 21.9         | -0.3                       | 20.1/23                   | 10                                    |
| Rajbiraj            | 26.5407  | 86.7425   | 68        | 488.6         | 118.8       | 17.0              | 8.0     | 5.0     | 3.0     | 185.2/5                              | 33.0         | 0.1                        | 36.1/31                    | 26.7         | 1.5                        | 24/2                      | 28                                    |
| Rampur              | 27.6540  | 84.3508   | 189       | 586.5         | 111.0       | 15.0              | 10.0    | 9.0     | 6.0     | 148.5/25                             | 33.5         | 0.0                        | 36.7/21                    | 26.3         | 1.0                        | 23.5/15                   | 28                                    |
| Rara                | 29.5401  | 82.0818   | 2989      | 196.0         | -           | 23.0              | 7.0     | 1.0     | 0.0     | 30.6/26                              | 20.9         | -                          | 23.5/21                    | 12.8         | -                          | 9/4                       | 0                                     |
| Salleri             | 27.5051  | 86.5862   | 2383      | 315.6         | 74.5        | 28.0              | 13.0    | 3.0     | 0.0     | 38.5/25                              | 25.9         | -                          | 29.5/9                     | 14.3         | -                          | 11/12                     | 0                                     |
| Salyan Bazar        | 28.3821  | 82.1423   | 1557      | 164.9         | 67.1        | 17.0              | 5.0     | 1.0     | 0.0     | 38.7/17                              | -            | -                          | -                          | 19.9         | 0.5                        | 18.6/1                    | -                                     |
| Semari              | 27.4682  | 83.7861   | 110       | 313.4         | 58.7        | 20.0              | 8.0     | 6.0     | 1.0     | 68/12                                | 34.2         | -2.0                       | 37.5/5                     | 27.1         | 1.8                        | 25.2/3                    | 29                                    |
| Simara Airport      | 27.1642  | 84.9800   | 137       | 470.0         | 85.6        | 16.0              | 9.0     | 5.0     | 2.0     | 150.7/29                             | 34.1         | 1.1                        | 36.8/20                    | 26.4         | 0.7                        | 24/15                     | 30                                    |
| Simikot             | 29.9715  | 81.8161   | 2993      | 179.5         | -           | 22.0              | 8.0     | 0.0     | 0.0     | 23.5/27                              | 20.9         | -                          | 24.3/21                    | 13.6         | -                          | 11.7/29                   | 0                                     |



**Government of Nepal**  
**Ministry of Energy, Water Resource and Irrigation**  
**Department of Hydrology and Meteorology**  
**Climate Division (Climate Analysis Section)**  
**Babarmahal, Kathmandu**

| Station         | Latitude | Longitude | Elevation | Precipitation |             |                   |         |         |         |                                      | Temperature  |                            |                            |              |                            |                                       |                           |
|-----------------|----------|-----------|-----------|---------------|-------------|-------------------|---------|---------|---------|--------------------------------------|--------------|----------------------------|----------------------------|--------------|----------------------------|---------------------------------------|---------------------------|
|                 |          |           |           | Total (mm)    | % of Normal | No. of Rainy Days |         |         |         | 24hr Highest precipitation (mm)/Date | Maximum      |                            |                            | Minimum      |                            | No. of days with maximum temp. > 30°C |                           |
|                 |          |           |           |               |             | ≥1.0mm            | ≥10.0mm | ≥25.0mm | ≥50.0mm |                                      | Average (°C) | Departure from normal (°C) | Highest temperature / Date | Average (°C) | Departure from normal (°C) |                                       | Lowest temperature / Date |
| Sindhuli Madhi  | 27.2281  | 85.9050   | 556       | 412.8         | 62.6        | 23.0              | 12.0    | 7.0     | 1.0     | 51.5/4                               | 32.3         | 1.1                        | 35.5/19                    | 24.0         | 0.9                        | 23.1/6                                | 29                        |
| Siraha          | 26.6561  | 86.2117   | 63        | 247.8         | 60.0        | 10.0              | 4.0     | 3.0     | 1.0     | 122.4/5                              | 34.2         | -                          | 37.5/19                    | 27.4         | -                          | 24.5/5                                | 30                        |
| Surkhet Airport | 28.5879  | 81.6352   | 683       | 321.7         | 69.2        | 20.0              | 11.0    | 6.0     | 0.0     | 47/3                                 | 32.3         | 1.1                        | 35.1/20                    | 24.2         | 0.6                        | 22.7/1                                | 29                        |
| Syangja         | 28.0988  | 83.8722   | 871       | 741.2         | 94.3        | 21.0              | 15.0    | 12.0    | 5.0     | 168/15                               | 32.2         | 1.2                        | 36/20                      | 23.2         | 1.1                        | 22/18                                 | 28                        |
| Tamghas         | 28.0636  | 83.2435   | 1547      | 523.6         | 108.5       | 23.0              | 14.0    | 9.0     | 3.0     | 95.7/25                              | 26.8         | 0.7                        | 29.5/19                    | 19.0         | 0.1                        | 17.8/1                                | 0                         |
| Tansen          | 27.8637  | 83.5387   | 1183      | 736.2         | 159.9       | 19.0              | 14.0    | 9.0     | 5.0     | 167/4                                | 29.2         | -                          | 32.6/19                    | 21.5         | 1.8                        | 20/1                                  | 13                        |
| Taplejung       | 27.3586  | 87.6700   | 1744      | 375.9         | 97.0        | 25.0              | 11.0    | 4.0     | 2.0     | 67.2/19                              | 25.9         | 0.6                        | 28.2/31                    | 18.1         | -0.1                       | 16.8/5                                | 0                         |
| Tarahara        | 26.6987  | 87.2786   | 120       | 543.4         | 99.8        | 17.0              | 8.0     | 6.0     | 4.0     | 151/12                               | 33.3         | 1.1                        | 36.5/19                    | 26.5         | 1.1                        | 25/1                                  | 30                        |
| Taulihawa       | 27.5711  | 83.0672   | 106       | 358.7         | 86.0        | 16.0              | 8.0     | 5.0     | 3.0     | 99/31                                | 33.4         | 0.2                        | 36.5/20                    | 27.0         | 1.1                        | 24.2/1                                | 29                        |
| Terhathum       | 27.1230  | 87.5362   | 1525      | 216.0         | 93.6        | 16.0              | 7.0     | 2.0     | 1.0     | 76.4/5                               | 26.2         | -0.3                       | 29/19                      | 19.2         | 1.0                        | 18/5                                  | 0                         |
| Thakmarpha      | 28.7409  | 83.6816   | 2655      | 96.0          | 127.2       | 18.0              | 2.0     | 0.0     | 0.0     | 10.9/21                              | 21.8         | -0.2                       | 24/10                      | 12.3         | -0.7                       | 10.5/7                                | 0                         |
| Tikapur         | 28.5366  | 81.115    | 149       | 378.1         | 78.64       | 16                | 10      | 6       | 3       | 76.7/25                              | 35           | 1.26                       | 38.3/20                    | 25           | -0.45                      | 22/1                                  | 29                        |
| Udayapur Gadhi  | 26.913   | 86.5397   | 469       | 290.1         | 64.9        | 17                | 9       | 4       | 1       | 68.4/13                              | 32           | 1.51                       | 35.5/15                    | 25           | 0.95                       | 23.2/13                               | 29                        |

Note:

- “mm” = millimeter; “hr” = hour; “temp” = temperature; “-” = Data Not Available.
- This summary is prepared based on the precipitation and temperature received at 111 meteorological stations during July, 2023. Out of 111 stations, 100 stations have normal precipitation data, 70 stations have normal maximum temperature data and 71 stations have normal minimum temperature data. Normal precipitation/temperature is the average of the monthly precipitation/temperature for period of 1991-2020.