



Government of Nepal
Ministry of Population and Environment
Department of Hydrology and Meteorology
Naxal, Kathmandu, Nepal

PRELIMINARY WEATHER SUMMARY OF NEPAL
JULY 2015

MAIN HIGHLIGHTS

Large parts of the country received normal to below normal rainfall in July, 2015. Mean temperature was also normal to above normal in most parts of the country.

SYNOPTIC SEQUENCES:

Weather over Nepal was affected by the following systems enhancing the rainfall activities during July 2015.

Monsoon Trough

During monsoon season, position of monsoon trough plays an important role in the contribution of rainfall. In general, if it shifts north of its normal position towards foothills of Himalaya, Nepal generally gets significant rainfall and when it moves to the south, monsoon break period occurs resulting in less or no rainfall. The axis of monsoon trough mostly remained normal or south of its normal during this month hence resulting this month as one of the wettest.

Low Pressure Area (LPA)

Three low pressure area and three land depression were formed during this month.

With the formation of a low pressure area over North Bay of Bengal on 8th July and its movement in northwest direction along the axis of monsoon trough plus abundant moisture present in the lower levels over the Indo- Gangetic plains aided its rapid intensification into a Land Depression over Jharkhand and neighbourhood on (10 – 12 July). In addition, the presence of cyclonic circulation over southwest Uttar Pradesh and adjoining areas and couple of western disturbances as a cyclonic circulation led to increase in rainfall activity all along the Indo- Gangetic plains and northwest India during the second week of July. The third & fourth week of July witnessed rapid movement of number of disturbances in mid latitude westerlies, in the form of cyclonic vortex forming deep depressions over land (27- 30)and, the active monsoon trough caused active to vigorous monsoon conditions over central India and western Himalayan region. Further the strengthening of cross equatorial flow in the lower troposphere led to enhanced rainfall along the west coast, however the rainfall activity over peninsular India remained subdued. Towards the end of the July, the Deep Depression over Bay of Bengal intensified further into a cyclonic storm 'Komen' (26 July– 2 Aug.)

PRECIPITATION DISTRIBUTION:

July is the wettest month for Nepal. This year, rainfall in July was normal to below normal in large parts of the country (Figure 2).

Rainfall was highest (>1000 mm) in central part of Western Region (WR) in Lumle while it was lowest (<50 mm) in northern parts of the Mid-Western Region (MWR) and southern parts of the Eastern Region (ER) (Figure 1).

Normal to below normal rainfall was recorded over central parts of the all the regions of the country, whereas the upper Himalayas and the southern border of the country received normal to below normal rainfall.

Monsoon was vigorous in 3rd week of the month (Table 1), as a result, good amount of rainfall was recorded throughout the country in comparison to the other weeks.

As compared to other stations, Lumle recorded the highest 24-hr rainfall of 288.7mm on 30th July also contributing to the highest monthly total rainfall of 1649.6 mm while Jomsom recorded the lowest monthly total rainfall of 32.8 mm (Table 2).

Table 1: Weekly distribution of precipitation over Nepal in July 2015

| Week | Total rainfall (mm) (arithmetic average from station rainfall) | Percentage (%) of monthly total | Daily rainfall Intensity (mm) |
|------------------|---|--|--|
| 1 st | 77.0 | 25.2 | 11.0 |
| 2 nd | 49.0 | 16.0 | 7.0 |
| 3 rd | 86.1 | 28.1 | 12.3 |
| 4 th | 50.3 | 16.4 | 7.2 |
| Remaining 3 days | 43.6 | 14.3 | 14.5 |
| Total | 306.1 | 100.0 | |

TEMPERATURE PATTERN:

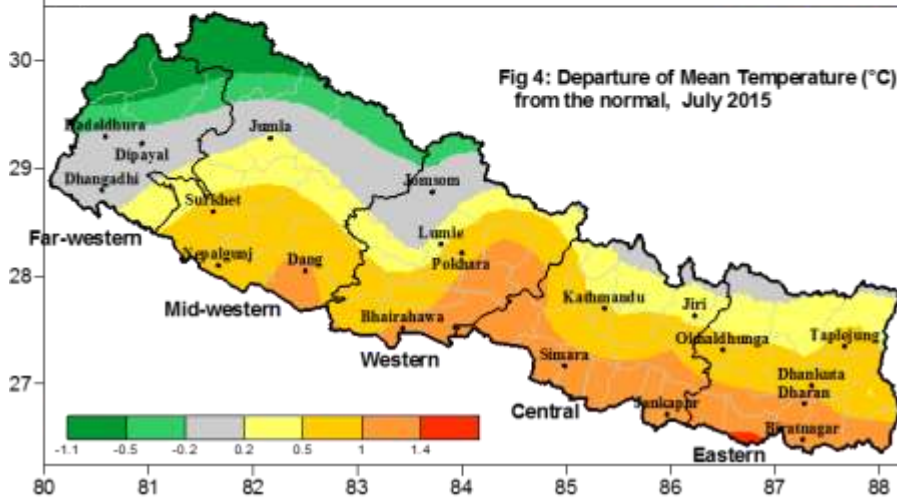
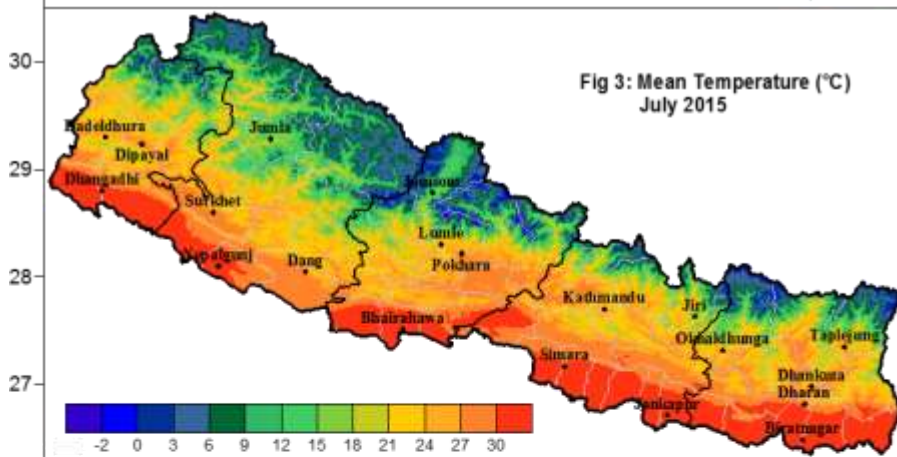
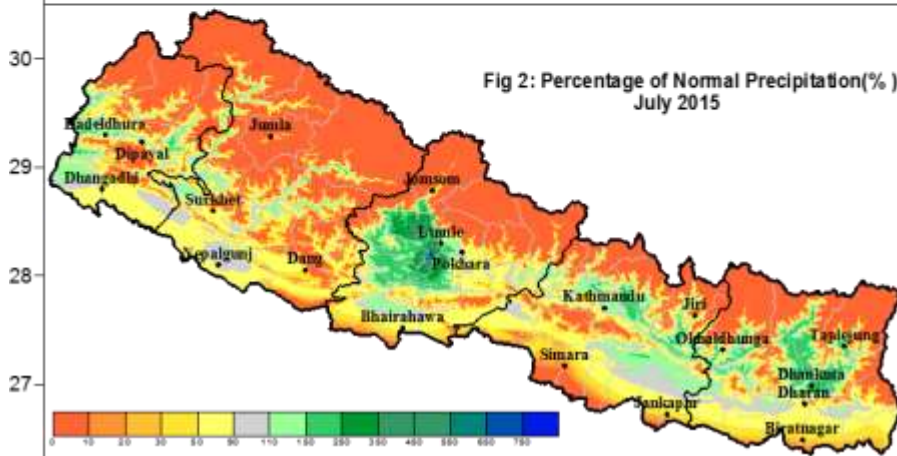
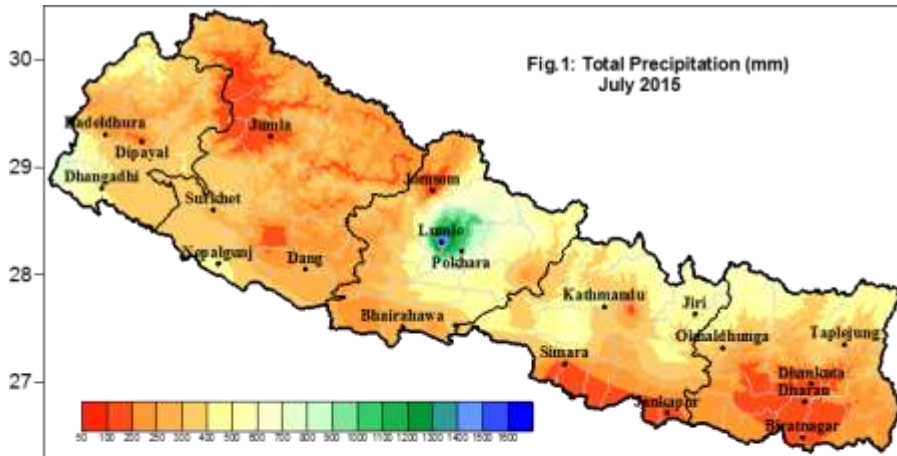
Mean temperature in July varied from below -2°C in northern parts to above 30 °C especially in the eastern and central Tarai region and some isolated patches in rest of the Tarai Region (Fig 3).

Mean temperature was normal to above normal (Figure 4) in almost all parts of the country, with positive departures greater than or equal to 1.4°C in isolated patches over ER, whereas below normal temperature was observed in Northern limits of the FWR and MWR.

The highest positive temperature anomaly of 1.8°C was recorded in Dumkauli while the highest negative temperature anomaly of -1.3°C was recorded in Darchula.

Similarly, highest maximum temperature of 38.8°C was recorded in Dumkauli on 18th and Dipayal (Doti) on 4th July whereas Simikot recorded the lowest minimum temperature of 10.8°C on 3rd July (Table 2).

The preliminary weather data for July 2015 is presented in Table 2.



Remarks: Normal Rainfall (Gray colour) = $100 \pm 10\%$
 Normal Temperature (Gray colour) = $0 \pm 0.2\text{ }^{\circ}\text{C}$

