

## **Cloud Burst over Leh (Jammu & Kashmir)**

### **1. Introduction**

A cloud burst has been reported near Leh in Jammu and Kashmir around 0130–0200 hours IST on 6<sup>th</sup> August, 2010 leading to flash flood and mud slides over the region. It caused huge loss of lives and properties.

The cloud burst is a disastrous weather event in which, the heavy rainfall occurs over a localised area at faster rate. The rate of rainfall may be of the order of 100mm per hour. The cloud burst in India occurs during monsoon season over the orographically dominant regions like Himalayan region, northeastern states and the Western Ghats. The associated convective cloud can extend upto a height of 15 km above the ground.

The characteristic features of the cloud burst over Leh on 6<sup>th</sup> August are given below

### **2. Characteristic features of the event**

Analysis of Satellite Imageries indicate that the intense convective system developed in the easterly current associated with monsoon conditions over the region. The convective cloud band extending from southeast to northwest developed over Nepal and adjoining India in the afternoon of 5<sup>th</sup>. It gradually intensified and moved west-northwestward towards Jammu & Kashmir. An intense convective cloud clusture developed to the east of Leh by 2130 hours IST of 5<sup>th</sup> August. Satellite Imageries of 0030 hours IST (2100 UTC) to -0600 hours IST (0030 UTC) of 6<sup>th</sup> August are shown in Figure 1.

The cloud burst was highly localised, as the nearby meteorological observatory of Indian Air Force (IAF) reported 12.8 mm of rainfall during 0530 hrs. IST of 5<sup>th</sup> to 0530 hrs. IST of 6<sup>th</sup> August.

According to synoptic analysis, the monsoon trough at the mean sea level lay to the south of its normal position on 4<sup>th</sup> and 5<sup>th</sup> August. There was a cyclonic circulation in lower levels over west Rajasthan and neighbourhood. A

well marked low pressure area lay over northwest Bay of Bengal on 5<sup>th</sup> and over north Orissa and neighbourhood on 6<sup>th</sup> August. Under the influence of these systems, strong southeasterly winds with speed of 15-20 knots prevailed over western Himalayan region.

#### **4. Forecast issued by IMD**

The forecast issued by Meteorological Centre, Srinagar based on 0830 hrs IST observation on 5.8.2010 was as :

Rain/thundershowers would occur at a few places with moderate to heavy showers at isolated places in Jammu & Kashmir.

#### **5. Climatology:**

Usually, the western Himalayan region experiences the cloud burst events during the monsoon season in association with the strong monsoon circulation or the interaction of monsoon circulation with the mid-latitude westerly system. The orography of the region plays a dominant role by increasing the convection and hence the intensity of cloud burst. It also occurs over other orographically dominant regions like the northeastern states and Western Ghats region. It can occur also over the plain areas, but the frequency of such occurrence is very rare. However Laddakh region of J&K is not known to be frequently affected by this type of phenomena. It is a cold desert and average rainfall for the month of August is 15.4 mm only. The highest rainfall ever recorded over Leh during 24 hours period has been 51.3 mm recorded on 22 August, 1933.

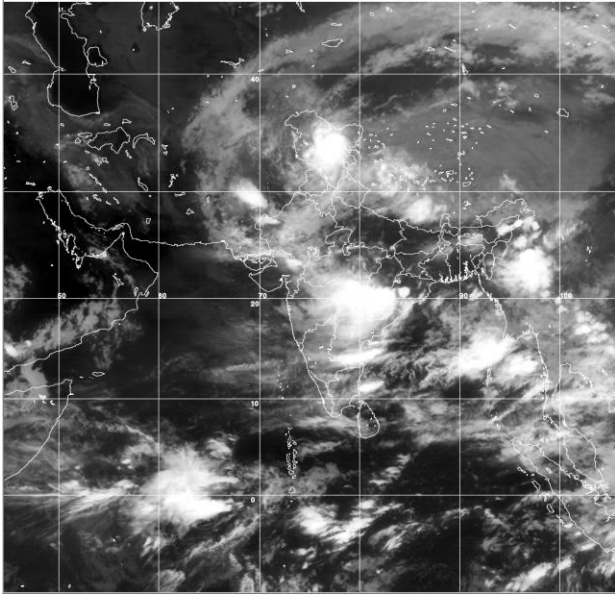
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05-08-2010 / 21:00Z

Sat: KALPANA-1



TIR Linear Stretch 1.0%



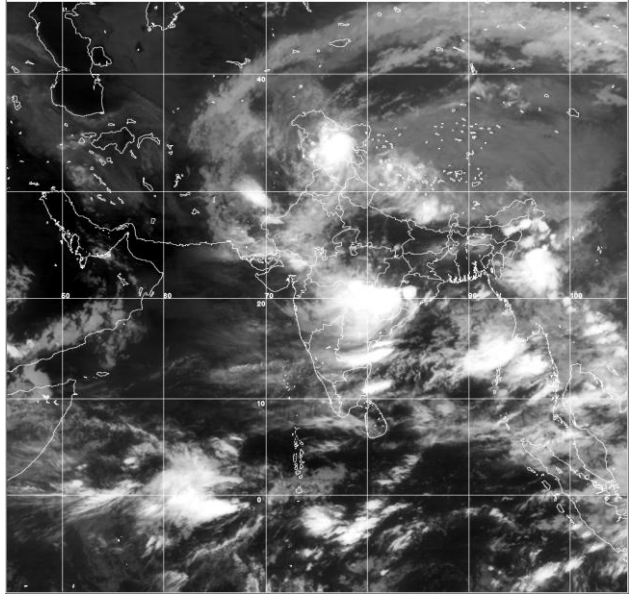
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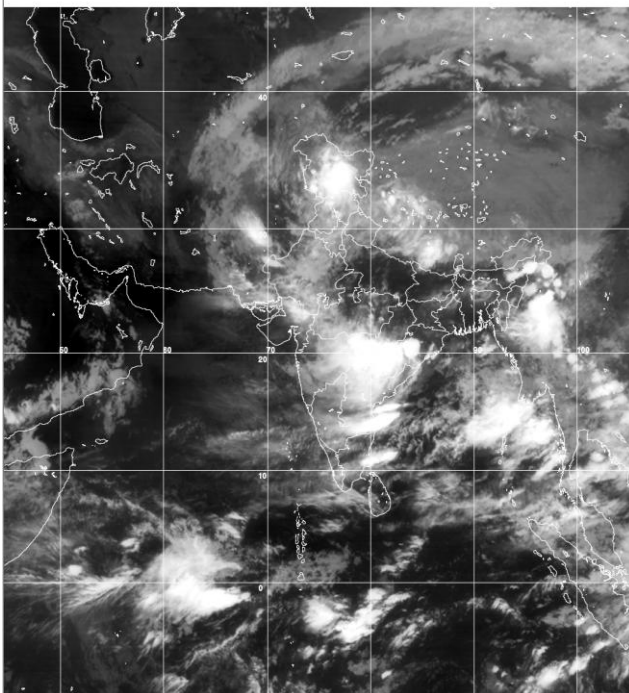
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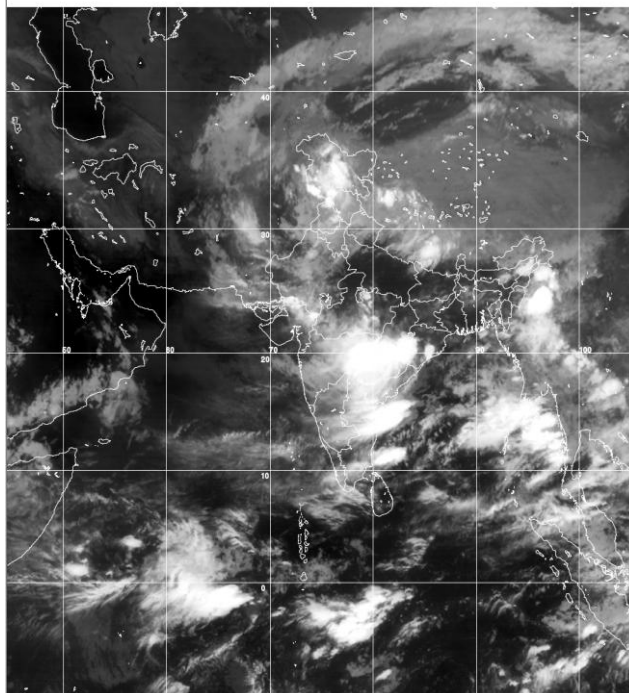
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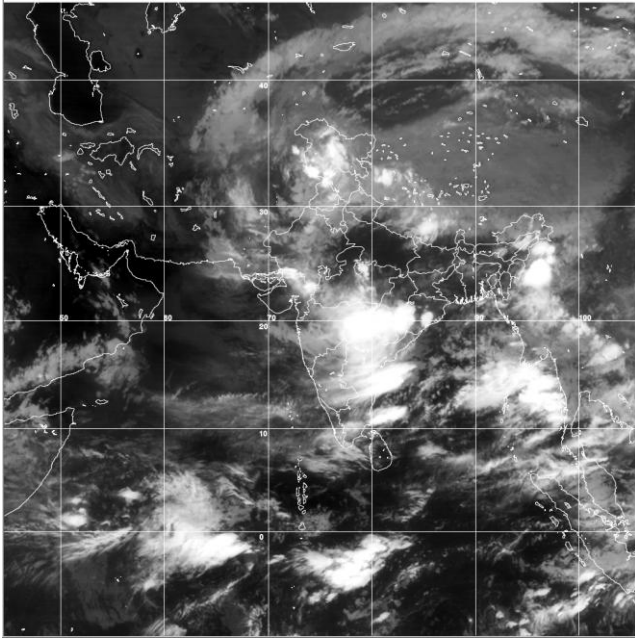


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