

भारत सरकार  
पृथ्वी विज्ञान मंत्रालय,  
भारत मौसम विज्ञान विभाग,  
मौसम केंद्र, शिमला-171001



Govt. of India,  
Ministry of Earth Sciences,  
India Meteorological Department,  
Meteorological Centre,  
Shimla-171001

**SOUTHWEST MONSOON 2022**  
**END OF SEASON REPORT**  
**HIMACHAL PRADESH**

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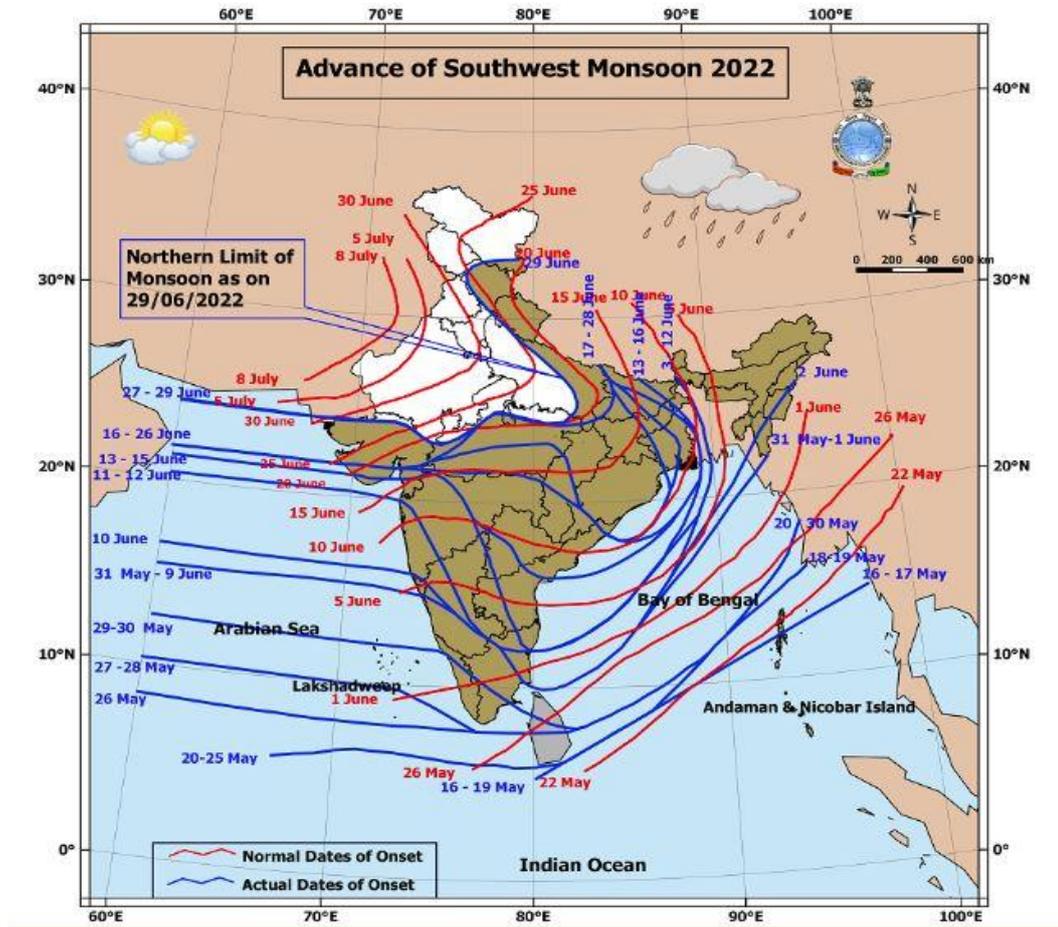


## 1. Main Features

- Monsoon arrived in Himachal Pradesh on 29th June 2022, About 5-7 days later than its normal date. Earliest onset in HP was on 13<sup>th</sup> June 2008 and 2021 respectively. Latest departure was on 11<sup>th</sup> October 2019.
- The Southwest monsoon seasonal (June to September) rainfall had been normal over Northwest India (101% of LPA) including Himachal Pradesh as predicted by IMD.
- State received 716.2 mm of rainfall during monsoon 2022 against its normal 734.4mm with -2.5 departures which is within normal range.
- All district received normal to excess rainfall except for Lahual Spiti and Una district wherein rainfall was deficient to scanty. Highest rainfall was reported in district Shimla while lowest in district Lahual Spiti.
- Rainfall in the month of June, July, August and September in HP was 67.1, 266.2, 247.6 and 135.3 mm respectively which were 66 % ,104 %,96% and 112 % of long period average ( LPA) for these months .
- **Extremely heavy rainfall also reported in district Kangra viz Kangra (Gaggal) i.e. 346.6mm and 333.0 mm in Dharamshala on 20th August which is all time record breaking earlier records of 180.0 mm and 316.9 mm respectively.**
- Widespread damage has also been reported to public and private properties including human lives during monsoon 2022.
- As per sources of State govt there were total 29 landslides,( highest in Kullu) 20 flash floods,( highest in Lahaul Spiti) 7 cloudbursts,( highest in Chamba) during the entire monsoon season (June-September) leading to extensive damage to public and private properties.

## 2. Onset and advance of monsoon.

Monsoon advanced over Kerala coast on 29th May, 2022 against the normal date of 01<sup>st</sup> June i.e. 3-days ahead of its normal date. Further progress of the monsoon northwards was steady. Monsoon advanced in Himachal Pradesh on 29th June. Advance of SW monsoon 2022 shown below in Map:1



Map1. Advance of Southwest Monsoon

### 3. Rainfall Distribution in Himachal Pradesh.

#### 3.1 Daily Time Series

Monsoon daily rainfall remained below normal in first two weeks of June 2022. Rainfall increases afterwards till September 2022, with spells of very heavy to extremely heavy rainfall in the month of July and August and September as shown in fig 1.

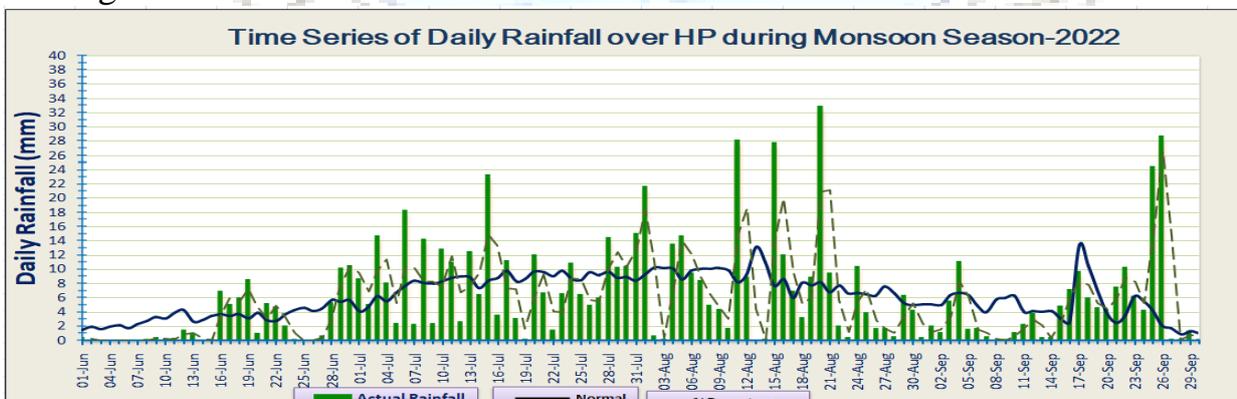


Fig. 1 Daily monsoon performance in HP

### 3.2 Weekly Time Series.

- Weekly district wise cumulative departure of rainfall in HP during monsoon season 2022 is shown in Fig 2. As evident from the figure that there was very large negative departure of rainfall in almost all district during 1<sup>st</sup> & 2<sup>nd</sup> week of June 2022. District monsoon rainfall performance in remaining weeks of remained near normal/ above normal except for district L& S, Sirmaur, Una and Kinnaur wherein it was below normal.

Cumulative Rainfall Departure Monsoon-2022																	
District	7-Jun-22	14-Jun-22	21-Jun-22	28-Jun-22	5-Jul-22	12-Jul-22	19-Jul-22	26-Jul-22	2-Aug-22	9-Aug-22	16-Aug-22	23-Aug-22	30-Aug-22	6-Sep-22	13-Sep-22	20-Sep-22	27-Sep-22
Bilaspur	-97	-88	-19	-47	147	37	56	45	37	26	12	14	15	16	12	11	15
Chamba	-100	-98	-63	-37	17	-20	-19	-21	-10	-15	-6	-4	-6	-9	-13	-14	-5
Hamirpur	-100	-49	17	-2	104	34	33	26	18	6	1	-2	-3	0	-3	-4	0
Kangra	-88	-94	-45	-51	46	-4	-1	8	-6	-9	-7	0	-3	-2	-4	-5	-1
Kinnaur	-100	-100	-58	-64	-24	-41	-28	-31	-18	-14	-14	-19	-23	-29	-35	-26	-10
Kullu	-100	-90	-14	-28	100	24	34	28	35	35	39	43	40	34	27	26	35
Lahaul & Spiti	-100	-95	-63	-70	-95	-80	-78	-78	-62	-65	-60	-62	-63	-66	-67	-68	-56
Mandi	-94	-83	-36	-52	117	4	5	6	4	4	8	17	14	13	9	9	11
Shimla	-100	-81	-19	-39	117	33	29	27	34	36	41	46	42	34	28	32	43
Sirmaur	-94	-98	-63	-68	75	-15	-27	-30	-25	-26	-20	-24	-25	-29	-31	-23	-10
Solan	-100	-81	-25	-41	99	-4	11	2	14	11	10	13	11	6	-1	1	12
Una	-87	-95	-26	-42	79	-8	6	5	1	-13	-23	-29	-27	-26	-26	-28	-21
Himachal Pradesh	-97	-91	-42	-48	53	-10	-8	-11	-6	-8	-5	2	-5	-7	-10	-10	-2

Fig. 2 Weekly monsoon rainfall performances in HP

### 3.3 Daily Cumulative Departure of Rainfall.

Daily cumulative departure of rainfall from normal for the state of HP during monsoon (June-September) 2022 is shown in fig 3 which indicates large departure of cumulative rainfall in June month and increase in July, August and September respectively.

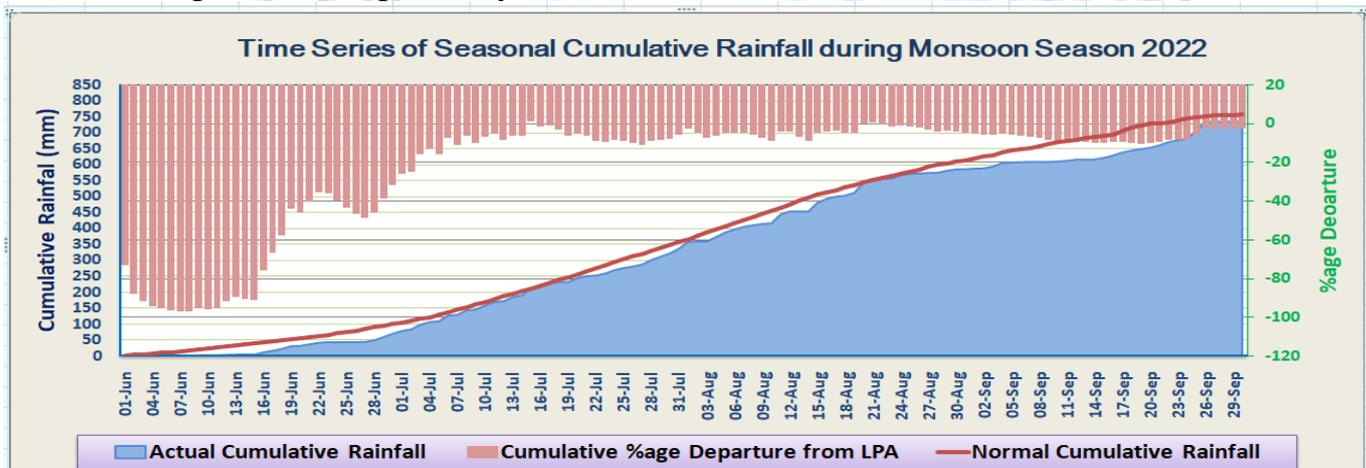
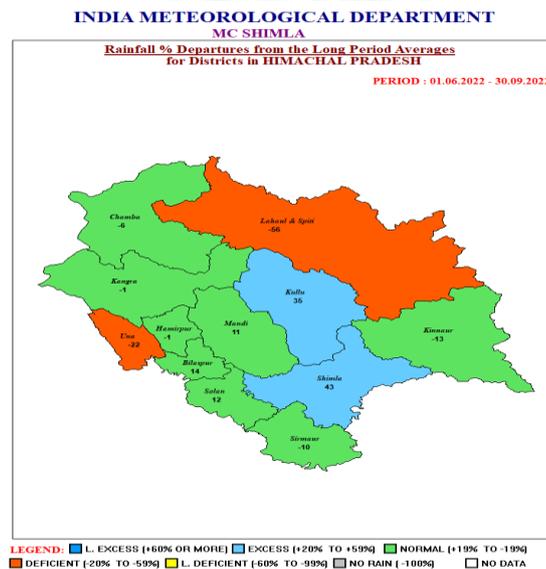


Fig. 3 Cumulative rainfall performances in HP

### 3.4 District wise rainfall distribution :

During monsoon season (June-September) out of 12 districts in Himachal Pradesh , 08 district received normal rainfall, 02 district received excess, whereas rainfall in two district were deficient. District Lahaul-Spiti observed lowest rainfall (-56 %) followed by Una (- 22%) & Kinnaur (-13%) . While district Shimla received highest rainfall (+43%) followed by Kullu (+35%) and Bilaspur (+15%) district. Percentage departure of district wise rainfall in Himachal from normal for the monsoon 2022 is shown in map 2 below.



Map 2. Rainfall % Departure From long period average.

### 3.4 Monthly Rainfall.

**Table 1.** Shows the actual rainfall, normal rainfall and Departure from normal for June, July, August, September and Seasonal rainfall during monsoon 2022 .

Rainfall	Actual(mm)	Normal(mm)	Departure (%)
Month			
June	67.2	101.1	-34
July	266.2	255.9	+04
August	247.6	256.8	-04
September	135.3	120.6	+12
June-September	716.2	734.4	-2.5

**Table1: Monthly rainfall data**

## 4. Trends of monsoon (June-Sept) rainfall in HP since 2004-2022

### 4.1 Seasonal

- Departure of monsoon rainfall for complete season from normal since 2004 for Himachal Pradesh is shown in Figure 4. Fig clearly indicates the longest period with negative departure of rainfall except 2010 and 2018 wherein monsoon performance was good. Overall monsoon level in Himachal since 2004 shows negative anomaly in most the years.

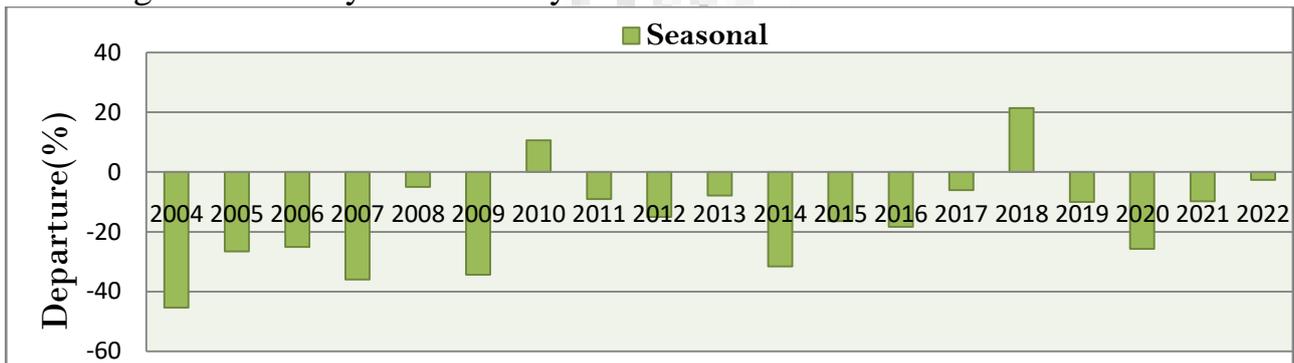


Fig . 4 Seasonal rainfall departure (%) comparisons ( June-Sept)

### Monthwise rainfall details in Hp during monsoon 2022:

#### 4.2 June

- In June 2022, state received 67.2 mm of rainfall against its normal of 101.1 mm with a deviation of - 34% from normal rainfall.
- Highest rainfall in Himachal Pradesh in June month during 2004–2022 period was 241 mm recorded in 2013 which was 243 % of LPA followed by year 2008 and 2011 with rainfall of 179.6 mm and 140.8 mm respectively as in fig.5
- The rainfall during June 2022 was deficient in the state with almost all districts reporting less rainfall than LPA. District Hamirpur, Una, Bilaspur, and Solan showed normal departures as shown in map 3.
- Three spells of heavy rainfall in the state were observed in June month.

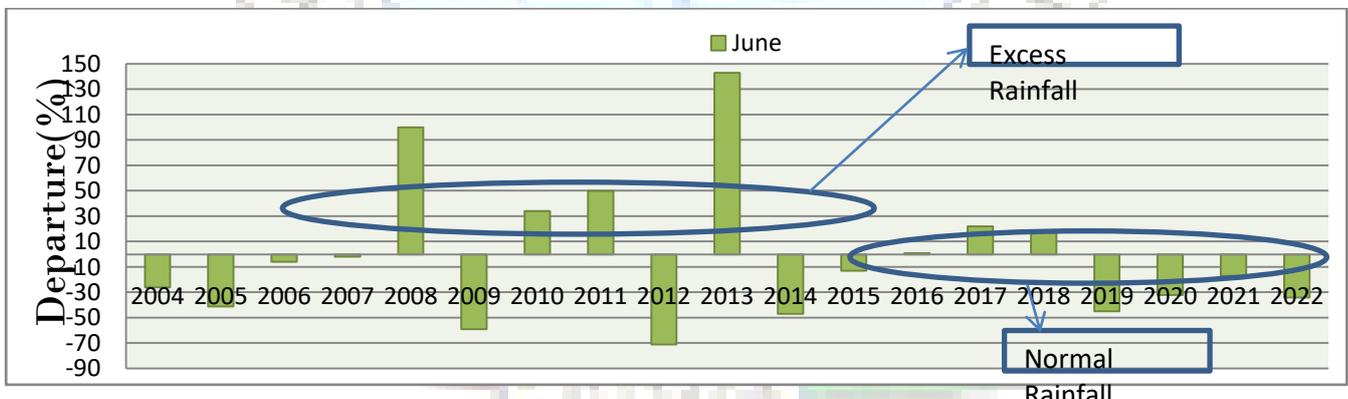
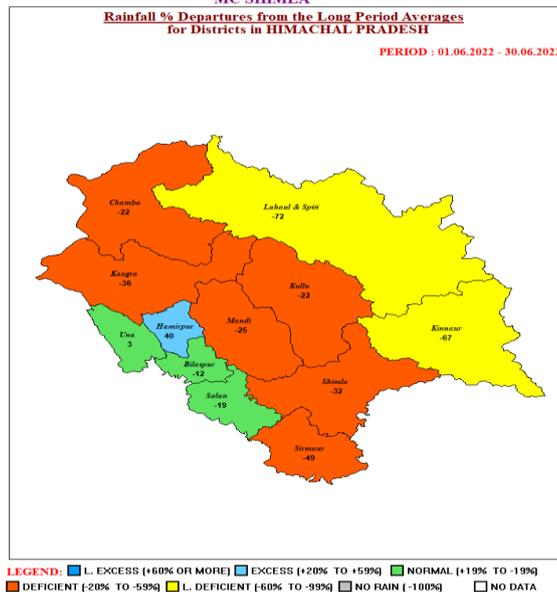


Fig . 5 June month rainfall departure (%) comparison .



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Map 3. June Month Rainfall % Departure From long period average Monsoon 2022

4.3 July

- State received 266.2 mm of rainfall in July 2022 against its normal rainfall of 255.9 mm with departure of + 4 % from normal.
- Highest rainfall received in Himachal Pradesh during July month during (2004–2022) was in year 2005 when state received 309.3 mm of rainfall against its normal rainfall of 288.1mm with + 7% departure followed by 2021 and 2022 when state received 285.4 mm and 266.9 mm of rainfall respectively.
- Lowest rainfall in July during (2004-2022) was in 2004 when state received 120.8 mm of rainfall against 288.1 mm with deficit of - 58%.as shown in Fig 6
- The rainfall during July 2022 was normal in Himachal Pradesh with few spells of heavy to very heavy rainfall in the state.

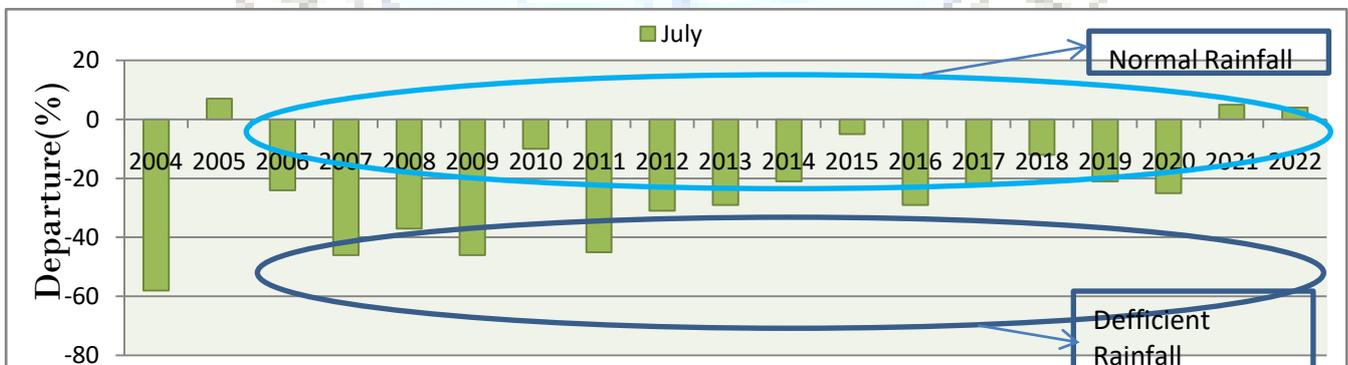
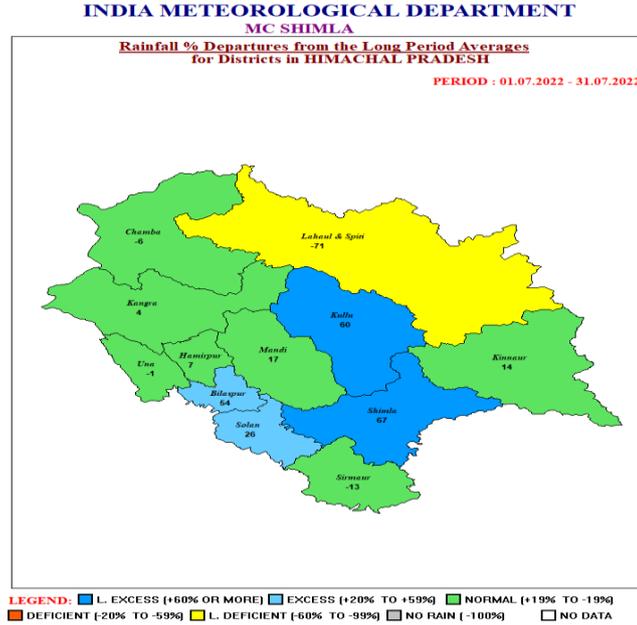


Fig: 6 July month rainfall departure(%) comparison .



The rainfall during July 2022 was normal in the state with almost all districts reporting normal to excess rainfall than LPA. District Lahaul-spiti had showed deficient rainfall as in map:4 below



Map 4. July Month Rainfall % Departure from long period average (Monsoon 2022)

#### 4.4 August

- State received 247.6 mm of rainfall against its normal of **256.8** mm with departure of - 4%.
- Highest rainfall in Himachal Pradesh during (2004–2022) was in 2019 when state received 322.5 mm of rainfall against its normal of 262.3 mm.
- This year state had experienced few spells of heavy (64.5mm-115.5mm) to very heavy rainfall (115.6mm-204.4mm) as shown in Tables 2.
- Districts Kullu, Shimla and Mandi had received excess rainfall, Districts Chamba, Kangra, Bilaspur, Solan had received normal rainfall, Districts Una, Hamirpur Sirmour and Lahaul-Spiti received deficient rainfall as shown in map below.

<u>Date</u>	<u>Record breaking rainfall in HP in August 2022</u>
<b>15.08.2022</b>	<b>Dharamshala(Kangra):215.3</b>
<b>19.08.2022</b>	<b>Kangra-217.8</b>
<b>20.08.2022</b>	<b>Kangra Aero:346.6, Dharamshala:333.0, Jogindarnagar:210.0</b>

Table2: Extreme rainfall events.

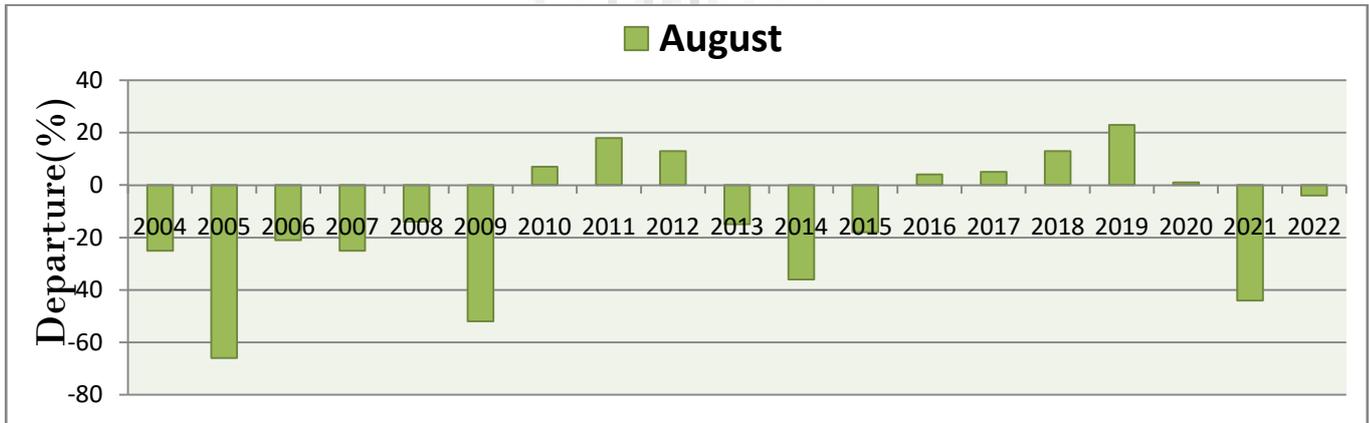
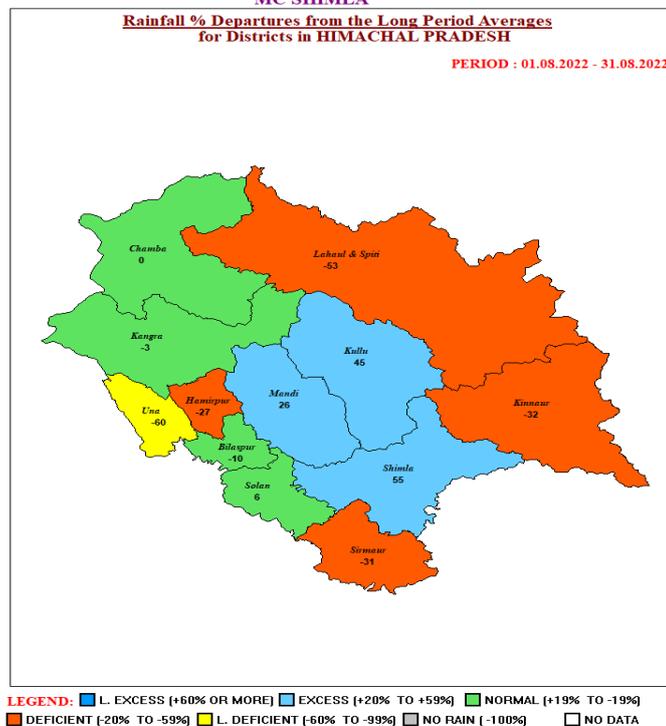


Fig . 7 August month rainfall departure (%) comparison .

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Map 5. August Month Rainfall % Departure From long period average ( 2022)

#### 4.5 September

- State received **135.3** mm of rainfall against it normal of **120.6**mm and was + 12% departure from normal.
- During the 2004-2022 period, rainfall was highest in the year 2018 followed by year 2010 and 2009 wherein state received 269.8mm, 202 mm and 187 mm rainfall respectively. State experienced isolated spells of heavy rainfall (more than 7 cm) during first week of September.



- State had received normal rainfall in all the districts of the state except Lahaul-Spiti which had shown large deficient departure as shown in map 6

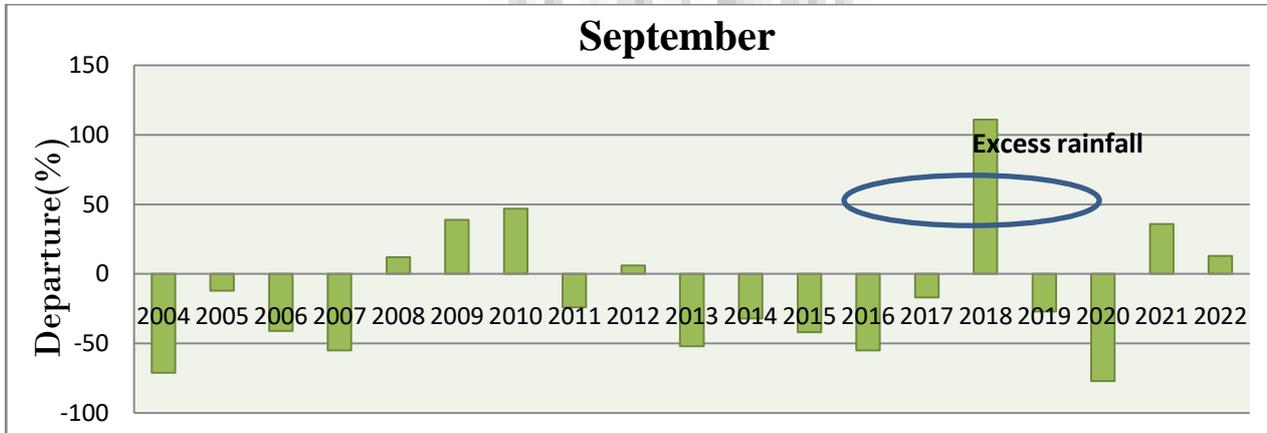
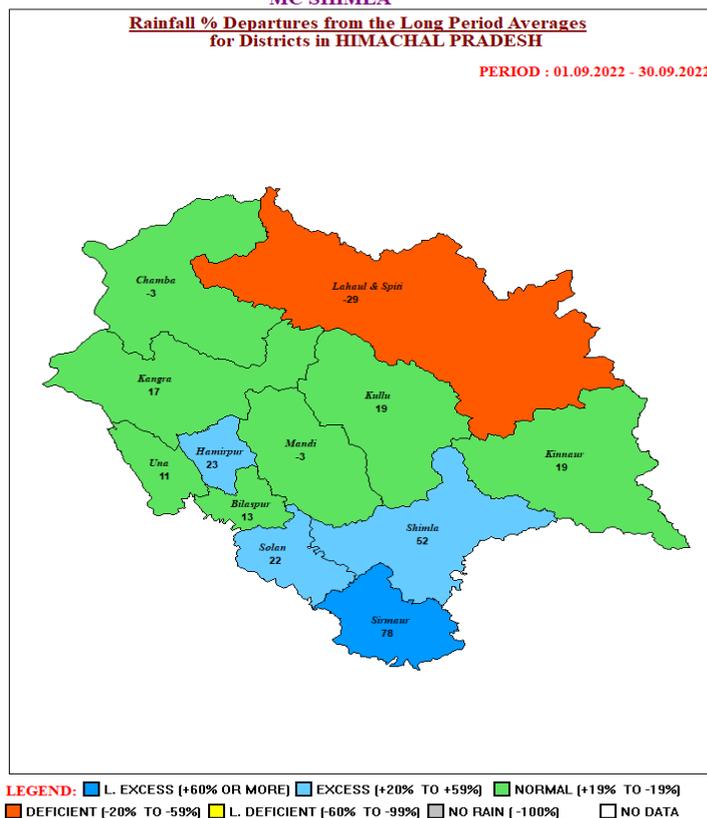


Fig . 8 September month rainfall departure (%) comparison.

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Map 6. September month Rainfall % Departure From long period average



## 5. Monsoon forecast verification 2022

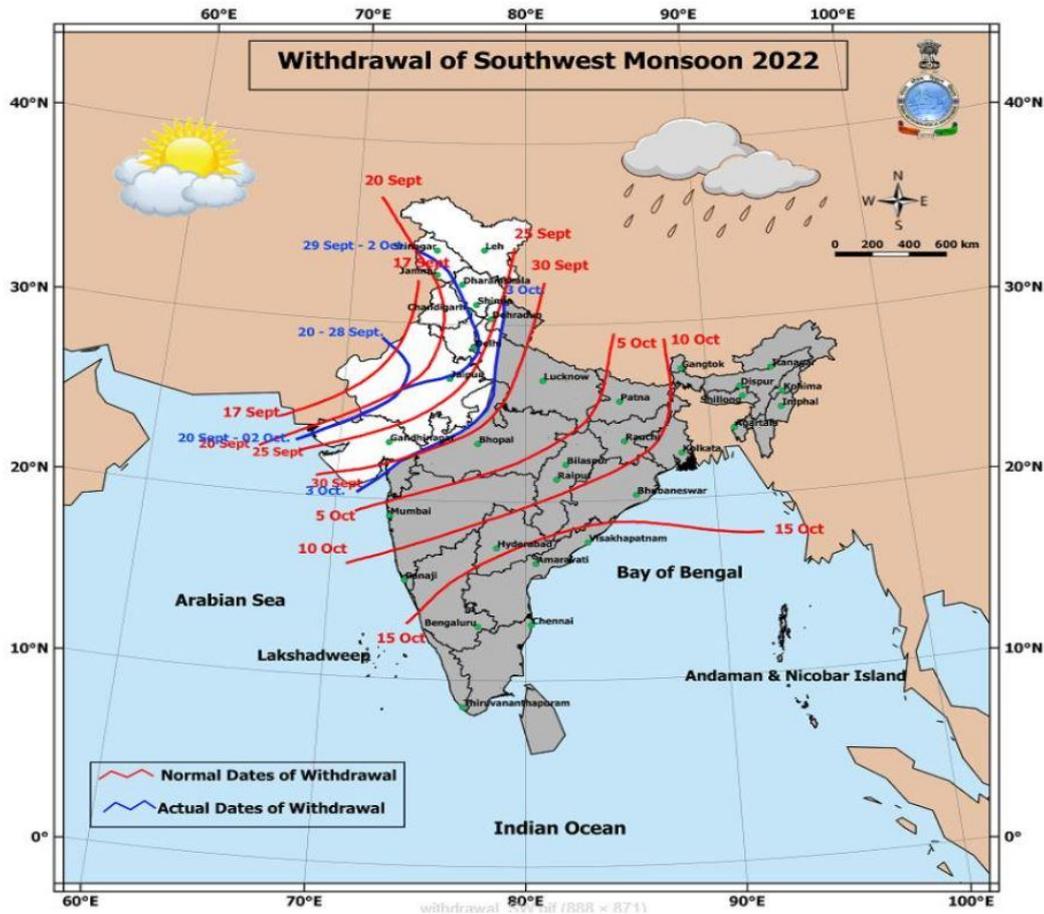
• Monsoon forecast verification as issued by IMD for all India. Northwest India which includes Himachal Pradesh for monsoon 2022 is shown in table given below which clearly indicates that realized rainfall in Northwest India including Himachal Pradesh during monsoon 2022 was within the forecast range hence long range forecast issued by IMD came accurate in year 2022.

Region	Period	Forecast % of LPA	Actual rainfall %LPA
All India	<b>June to September (Issued on 14<sup>th</sup> April)</b>	<b>96 to 104%</b>	<b>106</b>
All India	<b>June</b>	<b>Normal (92-108% of LPA)</b>	<b>92</b>
	<b>July (issued on 1<sup>st</sup> July)</b>	<b>July: Normal (94-106% of LPA)</b>	<b>117</b>
	<b>Aug &amp; Aug-Sep (issued on 1<sup>st</sup> Aug)</b>	<b>August: Normal (94-106% of LPA)</b>	<b>103</b>
		<b>Aug+Sept: Normal (94-106% of LPA)</b>	<b>105</b>
	<b>September (issued on 1<sup>st</sup> Sep)</b>	<b>Above Normal (&gt;91-109% of LPA)</b>	<b>108</b>
NW India	<b>June to September</b>	<b>92 to 108%</b>	<b>101</b>
Himachal Pradesh	<b>June to September</b>	<b>-</b>	<b>97</b>

**Table 3: Forecast issued and realized rainfall monsoon 2022**

## 6. Withdrawal of monsoon 2022:

- The Southwest Monsoon has withdrawn from the most parts of North Arabian Sea, most parts of Gujarat Region, some parts of West Madhya Pradesh and Uttarakhand; remaining parts of Saurashtra & Kutch, Rajasthan, Haryana,
- Himachal Pradesh and Jammu, Kashmir & Ladakh and some more parts of West Uttar Pradesh on, 03<sup>rd</sup> October, 2022 as shown in departure map given below.



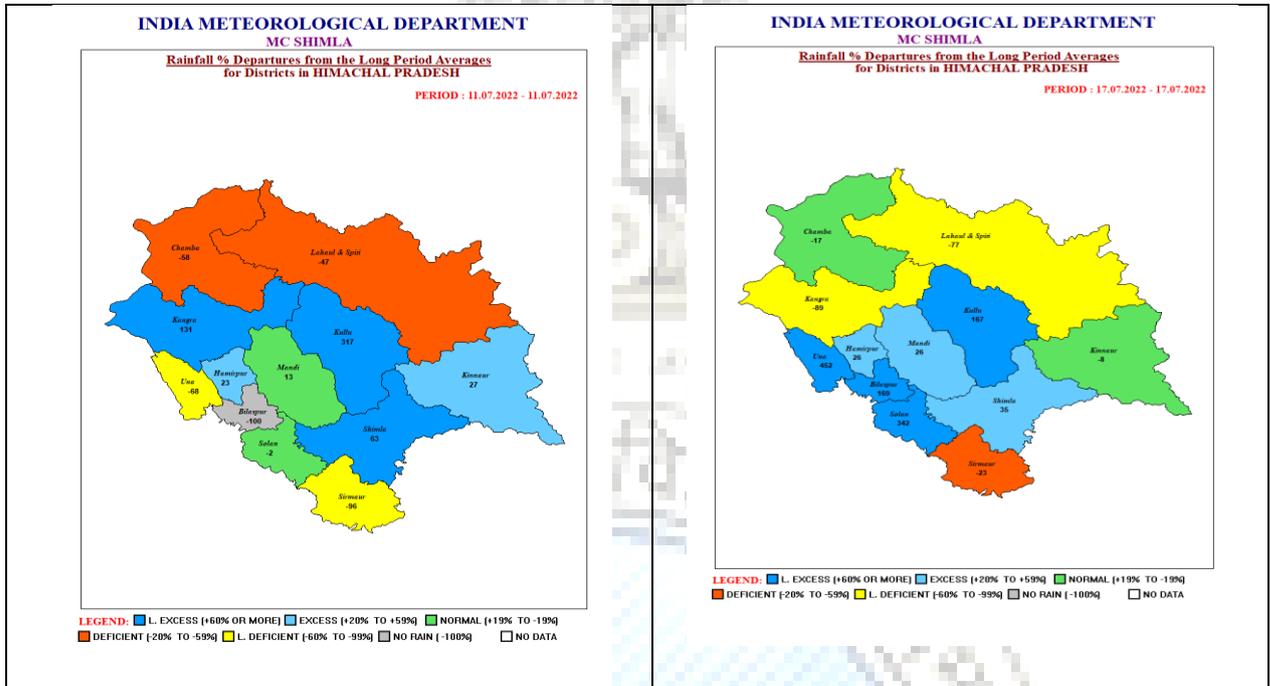
Map 6: Withdrawal of southwest monsoon.

## 7. Broad meteorological conditions associated with very heavy to Extremely heavy rainfall events in HP during monsoon 2022 are Given below:

**During 10<sup>th</sup> & 11<sup>th</sup> July:** Monsoon remained normal to its mean position and passes through Bikaner, Sikar, Shivpuri, Satna, Jharsuguda, centre of Low Pressure Area over coastal areas of south Odisha north Andhra Pradesh & neighbourhood and thence south-eastwards to East central Bay of Bengal and extends upto 1.5 km above mean sea level.

**During 17<sup>th</sup> July:** Monsoon trough passes through center of well Marked Low Pressure Area over Northeast Arabian Sea and adjoining coastal areas of Saurashtra & Kutch, Deesa, Pali, Gwalior, Satna, Ambikapur, centre of Low Pressure Area over coastal Odisha & neighborhood and thence southeastwards to Eastcentral Bay of Bengal and extends upto 1.5 km above mean sea level . Western Disturbance as a cyclonic circulation over north Pakistan & adjoining Afghanistan at 3.1km above mean sea level

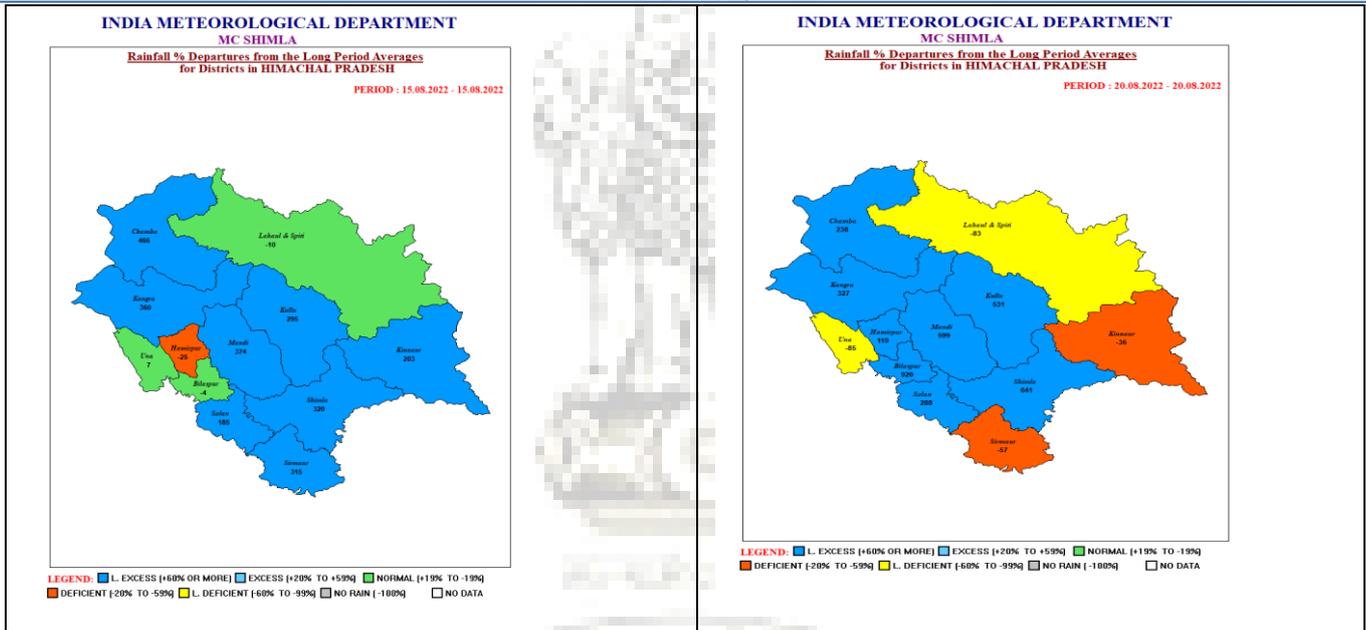
with trough aloft in middle & upper tropospheric westerlies with its axis at 5.8 km above mean sea level run roughly along Long.70°E & to the north of Lat.30°N. District wise Rainfall for specified period when heavy rainfall events occurred shown in map 7.



Map 7: Rainfall for specified period of heavy rainfall

**During 15th August:** Western Disturbance as a trough in westerlies with its axis at 5.8 km above mean sea level roughly along longitude 66°E to the north of latitude 32°N has become less marked and monsoon trough was at Ganganagar, Rohtak, Banda, Sidhi, Ambikapur, centre of depression over northwest Bay of Bengal and adjoining coastal areas of West Bengal & North Odisha and thence southeastwards to northeast Bay of Bengal and extends upto 1.5 km above mean sea level during this period.

**During 20th August.** The western end of the monsoon trough at mean sea level runs along the foothills of Himalayas and its eastern end now passes through Darbhanga, Supaul, Bankura, Digha, centre of Depression over northwest & adjoining northeast Bay of Bengal and thence south-eastwards to East central Bay of Bengal. District wise Rainfall for specified period when heavy rainfall events occurred shown in map 8



Map 8: Rainfall for specified period of heavy rainfall.

## 8. Dissemination of forecast and Warnings during monsoon 2022:

### 8.1. Outreach: SMS, WhatsApp, Tweeter & Facebook

Districtwise forecast and warning issued by IMD ,Shimla including impact based forecast was disseminated to Govt of HP and other stakeholders including social media from time to time and are as follows.

Office of the District Magistrate, Kangra at Dharamshala  
No. 823 SK/DM Dated 20/08/2022

In view of the predictions of Indian Meteorological Department that moderate to heavy rainfall is expected at isolated places in the District Kangra on 20<sup>th</sup> August 2022, the following advisory is hereby issued for the general public and the concerned authorities:

- The Disaster Response authorities in the entire district shall maintain a high level of alert and respond to any situation as expeditiously as possible in coordination with all concerned stakeholder departments.
- Tourists and general public is advised to not to go near rivers, streams and other water bodies.
- Similarly, areas vulnerable to the landslides should also be avoided.
- The Deputy Director Education has already instructed the schools for online classes in the schools on 20<sup>th</sup> of August 2022 and the provisions may be widely circulated.
- Any unnecessary movement of persons outside their homes may be avoided.
- All Panchayat Representatives shall inform the District Emergency Operation Centre on 01892 – 229050, 229051, 229052, 229053 in case of any incident in their areas and render all possible assistance to the authorities engaged in disaster response.

(Dr. Nigun Jindal) IAS  
District Magistrate  
District Kangra at Dharamshala

**Endst. No. as above** Date 20/08/2022

Copy forwarded to the following for information and necessary action:

- All Head of Departments in District Kangra
- All Sub Divisional Magistrates in District Kangra
- All Executive Magistrates in District Kangra
- All Block Development Officers in District Kangra
- All concerned officers/officials in District Kangra
- DPRO Kangra for wide publicity

District Magistrate  
District Kangra at Dharamshala

**DISTRICT WISE 5 DAYS WARNING FOR HIMACHAL PRADESH**

Day-1(Valid till 0830 IST OF 19.08.2022) Day-2(Valid till 0830 IST OF 20.08.2022)

Day-3(Valid till 0830 IST OF 21.08.2022) Day-4(Valid till 0830 IST OF 22.08.2022)

Day-5(Valid till 0830 IST OF 23.08.2022)

**Legends**

- NO WARNING
- WATCH (BE UPDATED)
- ALERTS BE PREPARED
- WARNING(TAKE ACTION)

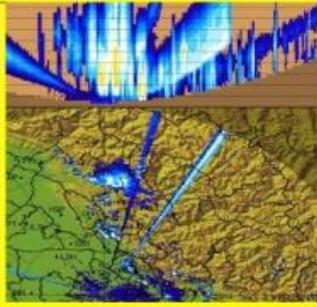
Heat wave (Isolated places) Rain/Thunderstorm Lightning at Isolated (Isolated places)  
Hailstorm at Isolated Places Gusty Winds: (Speed 30-40 KMPH)  
Heavy to very heavy rainfall at Isolated Places Heavy rainfall at Isolated Places

## NOWCAST

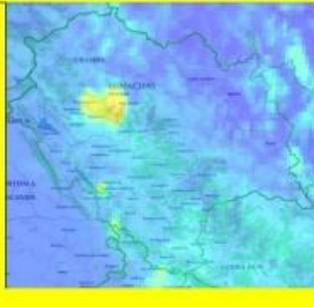
Date 19.08.2022  
Time of Issue: 1200 Hrs  
Validity: 1200 to 1500 IST

Moderate rainfall with thunderstorm likely to continue in the districts of Kangra(Kangra, Palampur, Baijnath), Una(Bangana, Kotla), Bilaspur( Swarghat, Bilaspur), Solan(Tirki, Mustanpur, Solan, Arki), Sirmaur(Ponta Sahib, Rajghar, Nahan), Shimla(Jubberhatti, Shimla City), Mandi(Jogindernagr, Sundernagar, Kullu(Bhunther, Manali) and adjoining areas with low visibility conditions.  
**Heavy rainfall likely to continue in the Distt Kangra(Baijnath, Palampur) at isolated places.**  
This weather Phenomena Likely to continue during next 2 to 3 hours

Radar Picture @Patiala

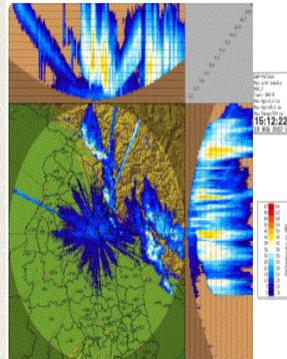


Satellite picture



### Weather Alerts

+91 70180 ~Hemraj Verma



Light to moderate rainfall accompanied with thunderstorms very likely to occur at many places over the state heavy rainfall likely to continue in the Districts of Kangra, Mandi, Hamirpur, Bilaspur,Solan, Sirmaur and Shimla at few places with possibility of flash flooding and landslides at isolated places during next 2 to 3 hours. 9:02 PM

+91 94177 ~Surennder Paul  
Moderate rainfall with one or two spells of heavy fall likely to continue in parts of district Chamba,Kangra,Hamirpur,Mandi,Bilaspur,Una Shimla, Solan, Sirmaur and adj area during next 2-3 hrs. It cou trigger landslides,flashfloods , poor visibilities and associated impacts .



Government of India  
Ministry of Earth Sciences  
India Meteorological Department  
Meteorological Centre, Shimla (HP)

Dated: 18<sup>th</sup> August 2022

### Press Release for the State of Himachal Pradesh

#### 1. Monsoon Status:

Rainfall activity was fairly widespread to widespread with moderate to heavy in the state of Himachal Pradesh. Monsoon activity remained normal to active during the last week. Two spells of heavy rainfall and very heavy rainfall occurred at isolated places in the district Chamba, Kangra, Mandi and Solan,

#### 2. Weather Forecast and Warning for Himachal Pradesh valid up 0830 Hrs IST of 22th august 2022.

Light to moderate rain very likely to continue during next 3-4 days with possibility of Heavy rainfall at isolated places during this period. Rainfall activity likely to increase from around 19<sup>th</sup> August with light to moderate rainfall associated with isolated heavy rainfall during next 3-4 days. There is possibilities of heavy rainfall in the district of Kangra ,Kullu, Mandi ,Shimla, Solan Sirmaur, Una, Hamirpur, Bilaspur during next 3 to 4 days. Light to moderate precipitation with isolated heavy fall could also occur at one or two parts of district Lahual & Spiti, Kinnaur and upper parts of Chamba during this period.

Further update in this regards follow in our bulletin from time to time. Kindly refer to daily District wise forecast and warnings issued in this regard.

#### Impact and Advisory :

- High probability of landslides along roadways, ( State and National in HP), Railways including vulnerable areas in the State.
- High probability of increased runoff in seasonal Nullah and other channels leading to flashfloods in distt Shimla,Sirmaur ,Solan, Hamirpur Mandi,Kangra, Chamba parts of Lahual Spiti , Kinnaur and adj area
- Sudden increase in water level of perennial and rainfed rivers viz Sutlej, Beas, Ravi and its tributaries.



Government of India  
Ministry of Earth Sciences  
India Meteorological Department  
Meteorological Centre, Shimla (HP)

### National Flash Flood Guidance Bulletin for Himachal Pradesh

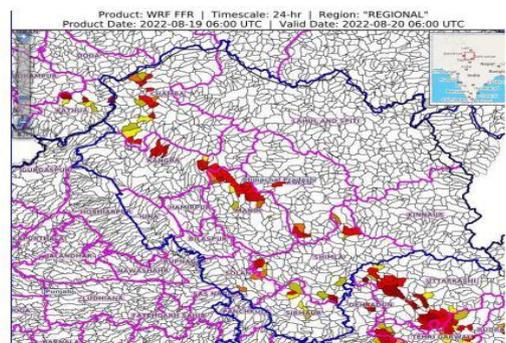
Dated: 19 August 2022

TIME OF ISSUE: 1200 IS

ISSUED BY: IMD HYDROMET DIVISION, NEW DELHI

**24 hours Outlook for the Persistent Flash Flood Risk (PFFT) till 1200 IST of 20.08.2022:**

- Moderate Threat over few Watersheds & neighborhoods of **Kangra, Chamba, Mandi, Kullu, Shimla, Solan and Sirmaur** districts Himachal Pradesh Met Sub division likely in next 24 hours.
- Surface runoff Inundation may occur at some fully saturated soils & low lying areas over AoC as shown in map due to expected rainfall occuren in next 24 hours.



Disclaimer: This is only a guidance bulletin and not a warning for flash floods.

Legends:

**Risk Based Alerts**  
•Red - High  
•Orange - Moderate  
•Yellow - Low

## 9. Media Reports-

### Video: Chakki railway bridge in Himachal collapses amid flash floods

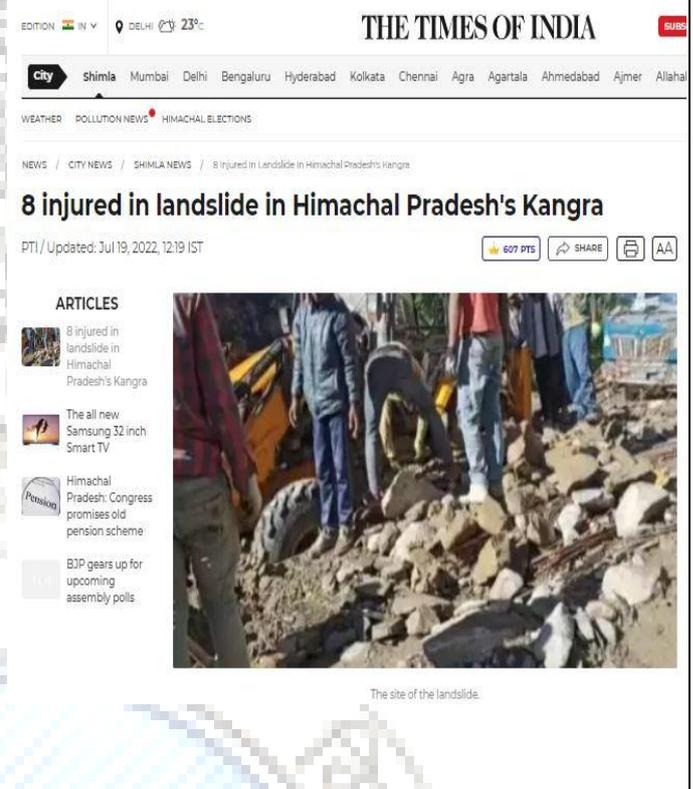
India News

Published on Aug 20, 2022 02:46 PM IST

The additional district magistrate of Kangra said the bridge collapsed due to flash floods while the Northern Railways has said that the water is yet to recede.



Collapsed portion of railway bridge over the Chakki river after flash flood triggered by heavy monsoon rains.(PTI)



THE TIMES OF INDIA

DELHI 23°C

City Shimla Mumbai Delhi Bengaluru Hyderabad Kolkata Chennai Agra Agartala Ahmedabad Ajmer Allahabad

WEATHER POLLUTION NEWS HIMACHAL ELECTIONS

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### 8 injured in landslide in Himachal Pradesh's Kangra

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ARTICLES

- 8 injured in landslide in Himachal Pradesh's Kangra
- The all new Samsung 32 inch Smart TV
- Himachal Pradesh: Congress promises old pension scheme
- BJP gears up for upcoming assembly polls

The site of the landslide.

**चंबा के सलूणी में बादल फटने के तबाही: 15 वर्षीय बच्चे की मौत, घरों व 4 पुल को नुकसान, 10 गाड़ियां मलबे में दबी**

शिमला 2 महीने पहले



### Monsoon 2022: Himachal sees 7 cloudbursts, 31 flash floods in a month

Cold desert region affected; 133 deaths due to calamities reported in state



By Rohit Prashar  
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चंबा के सलूणी में बादल फटने के बाद क्षतिग्रस्त पुल।



A road in Himachal Pradesh's Lahaul-Spiti region blocked after a cloudburst. Photo: Rohit Prashar



## 10. Monthly Disaster events.

- As per sources of State govt (DDMA,SDMA) there were many disastrous events during the entire monsoon season 2022 (June-September) leading to extensive damage to material and human lives.
- Some major events are shown in table below.

### June

S.no	Name of the Event	Date	Area	Intensity	Causalities	Source of Information
1.	Rainfall	30.06.2022	Nalagarh(Solan)	LOW	Nil	News Paper
2.	Rainfall	30.06.2022	Theog(Shimla)	-	Nil	DDMA Shimla
3.	Cloud Burst	15.06.2022	Kullu	-	Nil	News Paper
4.	Rainfall	01.07.2022	Himachal	High	13	News Paper

### July

S.no	Name of the Event	Date	Area	Intensity	Causalities	Source of Information
1.	Cloud Burst	6.7.2022	Choj, Parvati Valley, Kullu	-	4 Missing	HP SDMA
2	Land Slide	6.7.2022	Dhalli, Shimla	-	1	HP Sdma
3	Cloud Burst	8.7.2022	Ghumarwin, Bilaspur	-	13 Animals	HP Sdma
4	Cloud Burst	29.7.2022	Nirmand, Kullu	-	Nil	HP SDMA
5	Flash Flood	27.7.2022	Toring Nallah, LS	-	Nil	Hp Sdma
6	Flash Flood	31.7.2022	Shakardehra, Mandi	-	6 Injured	Hp Sdma

### August

S. No.	Name OF Event	Date	Area	Intensity	Causalities	Source of Information
1	Heavy Rain & Land Slide	5.8.2022	Manali	-	NA	News Paper
2	Land Slide	7.8.2022	Chirgaon(Shimla)	-	NA	News Paper
3	Cloud Burst	8.8.2022	Chamba	-	1	News Paper
4	Land Slide	8.8.2022	Ani, Kullu	-	2	New Paper
5	Cloud Burst	15.8.2022	Salkhar, Kinnaur	-	Nil	News paper
6	Floods	19.8.2022	Chakki River, Kangra	-	Nil	News paper



## September

S. No.	Name OF Event	Date	Area	Intensity	Causalities	Source of Information
1	Flash Flood	25.09.2022	Dharedi & Khodi, Chamba	-	3	News Paper
2	Cloud Burst	25.09.2022	Mangarh, Sirmaur	-	1	News Paper

## Legends

Note: Forecast/Warning for any day is valid from 0830 hours IST of that day till 0830 hours IST of next day

WARNING	PROBABILISTIC FORECAST		SPATIAL		RAINFALL INTENSITY	
WARNING (TAKE ACTION)	Terms	Probability of Occurrence	DRY	No Rainfall	Light	2.5-15.5 mm
ALERT (BE PREPARED)	Unlikely	<25%	ISOLATED	1-25%	Moderate	15.6-64.4 mm
WATCH (BE UPDATED)	Likely	25-50%	FEW	26-50%	Heavy	64.5-115.5 mm
NO WARNING (NO ACTION)	Very Likely	50-75%	MANY	51-75%	Very Heavy	115.6-204.4 mm
	Most Likely	>75%	MOST	76-100%	Extremely Heavy	≥204.5 mm

Region	Areas / Districts covered
HIGH HILLS	L & S, KINNAUR, CHAMBA, UPPER PARTS OF DISTRICTS OF KULLU AND MANDI.
MIDDLE HILLS	SHIMLA, MANDI, KULLU, SOME PARTS OF CHAMBA (SIHUNTA, CHOWARI AND CHAMBA) MOST PARTS OF DISTRICTS OF SOLAN AND SIRMAUR
LOW HILLS / PLAINS	UNA, BILASPUR, HAMIRPUR, PARTS OF DISTRICTS OF KANGRA (NURPUR, JWALA & DEHRA) SOLAN (NALAGARH, BADDI, ARKI & KUNIHAR) AND SIRMAUR (NAHAN & PAONTA SAHIB).

**For more information kindly visit:**

Website: <https://mausam.ind.gov.in/shimla/>

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