



# NORTH INDIA FLOODS 2023

Situation Report - 10th July 2023

# INTRODUCTION

- Northwest India has been severely impacted by incessant rainfall since July 8, 2023, with record-breaking levels of heavy to extremely heavy rainfall observed in Jammu and Kashmir, Uttarakhand, Himachal Pradesh, Haryana, Uttar Pradesh, Rajasthan, and Delhi.
- This intensified monsoon is believed to be a consequence of climate change. Further, the combination of a western disturbance and monsoonal winds has caused an unprecedented spell of extreme rainfall throughout northwest India. Delhi, Punjab, and Himachal Pradesh have received rainfall that is 112%, 100%, and 70% above the average, respectively, during the ongoing monsoon season, which began on June 1, according to the Department of Meteorology (IMD).
- Himachal Pradesh has reported 14 major landslides and 13 flash floods, resulting in casualties and damage to infrastructure and worst affected. In fact, Delhi recorded 153 mm of rain, the highest in the past four decades in July since 1982. Widespread rain has led to rivers, including the Yamuna in Delhi, overflowing in northern India. Consequently, two floodgates of the Sukhna Lake had to be opened on July 10, 2023. The low-lying flood prone areas along the Yamuna river in Delhi are expected to affect around 41,000 people. The situation was aggravated by the waterlogging of the Ambala deputy commissioner's office in Haryana and grim situation in Punjab.
- Reports suggest that at least 34 people lost their lives in rain-related incidents in the hilly regions of Himachal Pradesh, Uttarakhand, and Jammu and Kashmir, while approximately five deaths were reported in the plains of Uttar Pradesh, Delhi, Punjab, and Rajasthan. Additionally, thousands of people remain stranded. Streets in various northern states such as Punjab, Delhi, and Uttarakhand were flooded, and rescue personnel utilized rubber rafts to rescue individuals trapped in their homes. Furthermore, bridges were washed away, and authorities had to employ helicopters to rescue people stranded on roads and bridges due to the heavy rain.
- IMD has forecasted that high-intensity showers will persist over most parts of north India, including Delhi, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Punjab, Haryana, and Rajasthan. However, the heavy rainfall is expected to subside after July 11, gradually moving eastwards and bringing heavy showers to the eastern regions.

# CAUSES

- Since July 8, 2023, two weather systems, namely Monsoon winds and Western disturbances, have been active in northern India, leading to the likelihood of extreme rain and floods. According to an expert, a trough extending from Rajasthan to the north Arabian Sea, associated with a western disturbance, was observed. Simultaneously, strong monsoon conditions caused winds from the Bay of Bengal to reach the northern region. The convergence of these two weather systems centered around Jammu & Kashmir on July 8 and Himachal Pradesh on July 9. These areas received moisture from both the Arabian Sea and the Bay of Bengal, resulting in exceptionally heavy rainfall. Such interactions between weather systems are not uncommon and have been linked to extreme weather events, particularly in the hilly regions of northwest India.
- Another expert noted that the interaction zone has persisted for the past 3-4 days, with the monsoon trough initially dipping into the eastern areas and the Bay of Bengal. While the monsoon pattern has shifted away from the Bay of Bengal, resulting in a decrease in moisture from that region, a low-pressure system has formed, leading to the flow of moisture from the Arabian Sea. This particular interaction is relatively less common. As a result, after 41 years, there has been around 16 cm of rainfall, with more than 10 cm of rainfall occurring in Delhi on 9th July, 2023.

## HEAVY RAIN & RIVER SITUATION

- Rivers such as Beas, Satluj, Ravi, Chenab (Chandra Bhaaga), and their tributaries including Uhl, Parvati, Tirthan, and Sainj are experiencing overflow.
- In Ambala, all rivers, including Markanda, Tangri, and Ghaggar, have surpassed the danger mark. Heavy rains have been pounding various locations in Haryana, including Chandigarh, Panchkula, Yamunanagar, Ambala, Karnal, and Kurukshetra.
- In Rupnagar, Punjab, the Siswan Nadi breached near Kamalpur. Showers were also reported in Fatehgarh Sahib, Mohali, Rupnagar, and Patiala in Punjab.
- The Yamuna river in Delhi is also on the brink of surpassing the danger mark. By 5 pm on July 10, 2023, the water level at the Old Railway Bridge in Delhi had risen to 205.4 meters, as reported by the Central Water Commission's flood-monitoring portal. In addition to heavy rainfall, the rise in Yamuna water level is attributed to the discharge of nearly three lakh cusecs of water from the Hathinikund Barrage in Yamunanagar, Haryana.

## FLOOD WARNING & ALERT

- The recent rainfall in the northern region over the weekend has resulted in a 59% excess compared to the usual levels, according to the latest data from IMD. The cumulative rainfall in the monsoon season has reached 243.2 mm, which is 2% above the normal average of 239.1 mm.
- IMD has issued a red alert for extremely heavy rainfall, defined as above 204 mm, in 10 out of the 12 districts of Himachal Pradesh for 9th July 2023, except for the tribal districts of Kinnaur and Lahaul and Spiti
- An orange alert has been issued for Punjab, Haryana, and Chandigarh. Uttarakhand had a red alert on July 9, while Delhi is on an orange alert for July 10.
- While accurately predicting the exact patterns of such rainfall remains challenging due to its unpredictable nature, scientists emphasize that climate change is intensifying the strength and unpredictability of the monsoon.

## AFFECTS AND DAMAGES

- Floods and landslides in the northern states of Himachal Pradesh, Uttarakhand, Uttar Pradesh, Jammu and Kashmir, and Punjab have resulted in casualties. In addition to causing traffic congestion and rail delays, the region has been inundated with reports of landslides, flash floods, and extensive waterlogging, impacting tens of thousands of people.

### In Jammu & Kashmir

- Jammu-Srinagar national highway was closed due to multiple landslides and the washing away of a road near the Panthiyal tunnel and Seeri, as a result, more than 6,000 pilgrims stranded at Chanderkote Yatri Niwas.
- The Amarnath Yatra has been halted from Jammu due to significant damage caused to a section of the Jammu-Srinagar Highway in Ramban.



# FLOOD SITUATION - FIELD VISIT BY DOCTORS FOR YOU TEAM



DELHI



DELHI



DELHI



JAMMU & KASHMIR



JAMMU & KASHMIR



PUNJAB



## **In Himachal Pradesh**

- Massive landslides have occurred on several national highways, including Parwanoo-Shimla, Kiratpur-Manali, Pathankot-Mandi, and Shimla-Reckong Peo route. and the closure of approximately 765 roads, including the Chandigarh-Manali National Highway, as reported by the state's emergency operation center
- About 300 individuals remain stranded in various parts of the state.
- In Manali, 20 people were initially stranded but were later rescued. shops being swept away in Manali, vehicles being carried away in Nullah in Kullu, Kinnaur, and Chamba, and agricultural land being damaged.
- The flash floods over the weekend caused the collapse of a bridge and the destruction of several dwellings.
- In Mandi, heavy rainfall led to the washing away of a bridge over the Beas river.
- The mobile network has been severely disrupted, but updates are being received through wireless communication.
- On 9th July, total of 1,743 transformers and 138 water supply schemes were affected
- Numerous roads closed in the Shimla district.
- Train services between Shimla and Kalka have been canceled by the authorities.

## **In Uttarakhand**

- Heavy rainfall has been experienced
- landslide near Gular on the Rishikesh-Badrinath National Highway
- 3 pilgrims lost their lives when their jeep fell into the Ganga River

## **In Punjab and Haryana**

- The districts of Mohali, Patiala, Rupnagar, Fatehgarh Sahib, Panchkula, and Ambala are among the hardest-hit areas
- The Tangri river, which runs along the border of Haryana and Punjab, is flowing above the danger mark
- The SYL canal and Narwana canal is a branch of the Bhakra canal, has reached the danger mark and has breached in several villages, including Bishangarh and Insmailpur.
- Floodwaters have entered numerous houses built in the embankment area
- Situations in areas near the Sutlej and Ghaggar rivers have necessitated the evacuation of residents to safer areas
- Rajpura Thermal Power Plant, 700 MW units in Patiala was shutdown
- In Rajpura, water entered a private hospital, prompting the relocation of patients to two other medical facilities.
- Numerous fields in Punjab and parts of Haryana have been submerged, leading to damage to crops
- A bus overturned on the Ambala-Yamuna Nagar Road near the Hamidpur turn in Ambala district. All 27 passengers were safely evacuated by the police.
- The Punjab government has sought additional assistance from the Army to address the escalating crisis.
- Excessive water flow from Siswan had caused breaches in the Doraha and Rajgarh villages in Ludhiana which were then successfully sealed.
- Northern Railways has canceled approximately 17 trains and diverted around 12 others
- Traffic has been suspended at four locations or sections between Noganwan (Ambala)-New Morinda, Nangal Dam-Anandpur Sahib, and Kiratpur Sahib-Bharatgarh.
- Schools were closed

## **In Delhi**

- Experienced its highest recorded rainfall in a single day in July since 1982, with 153 mm of rain falling in the 24-hour period on 8th & 9th July 2023
- The heavy downpour turned roads into flowing streams, parks into waterlogged mazes, and marketplaces into submerged areas
- several roads in different parts of Delhi were submerged under knee-deep water
- schools in Delhi were closed.
- A total of 13 incidents of house collapse were reported in the national capital

## **In Rajasthan & Uttar Pradesh**

- In Chittorgarh, 2 fatalities occurred as a result of lightning strikes and 2 individuals drowned in Sawai Madhopur, Rajasthan
- 2 deaths also reported from Kaushambi and Muzaffarnagar, Uttar Pradesh

# **PREPAREDNESS, RESCUE AND RESPONSE**

## **Prime Ministers Office**

- The Prime Minister has engaged in discussions with senior ministers and officials to assess the situation following the heavy rainfall in various parts of the country, particularly in north India. Local administrations, along with teams from the National Disaster Response Force (NDRF) and State Disaster Response Force (SDRF), are actively working to ensure the safety and well-being of those affected by the floods and related incidents.

## **In Delhi**

- The Chief Minister of Delhi held a review meeting with ministers, officers, and the mayor to assess the situation in the national capital
- issued a flood warning and is creating awareness among people residing near the river banks.
- Sunday leave for all government officials and directed them to be present in the field
- 16 control rooms, including a central control rooms are established to monitor flood-prone areas and the water level of the Yamuna
- Once the water level of the Yamuna River surpasses the 206-meter mark, the evacuation of people approx.. 41,0000 individuals residing in low-lying areas will commence, including the preparation of evacuation teams, Quick response teams and the establishment of relief camps.
- To clear standing water, the Public Works Department (PWD) is operating 680 pumps, in addition 326 temporary pumps and 100 mobile pumps are deployed in vulnerable areas
- Temporary measures, such as filling potholes with stone chips, are being taken to prevent accidents on roads
- Boats equipped with necessary rescue equipment have been stationed to ensure prompt rescue operations
- Issued orders to close schools and colleges for two days
- Authorities have been instructed to remain vigilant and take necessary actions in vulnerable areas



# PREPAREDNESS, RESCUE AND RESPONSE

## In Punjab and Haryana

- The Punjab government has instructed ministers, deputy commissioners, senior superintendents of police, and other relevant officials to visit affected areas and provide necessary assistance to the affected people
- Amid the rivers Markanda, Ghaggar, and Tangri approaching the danger mark, a flood control room has been set up to monitor the situation. Flood control rooms have been established in other parts to provide assistance to those affected by the flooding.
- In response to a breach caused by water overflow from the Sutlej Yamuna Link (SYL) canal in Rajpura town, the Patiala district administration sought assistance from the Army.
- The Army has also been put on alert in other parts of Punjab.
- Teams from the National Disaster Response Force (NDRF) and State Disaster Response Force (SDRF) have been deployed in specific areas.
- Floodwaters breached the premises of a private hospital in Rajpura, leading to the rescue and transfer of patients to other hospitals.
- With the support of the Army, around 800 students from a private university in the district were successfully rescued
- Authorities have deployed helicopters and rubber rafts for rescue operations
- The Haryana government has issued a public advisory, urging people to take precautions and only venture out when necessary.
- Authorities have advised residents of low-lying areas along the riverbank to stay away and take necessary precautions

## In Himachal Pradesh

- 6 individuals stranded in the Beas River near Nagwain village were saved in a late-night rescue operation was conducted by the National Disaster Response Force (NDRF) team in Mandi district.
- Authorities in Himachal Pradesh, situated in the Himalayan states, have advised residents to stay indoors unless it is absolutely necessary.
- As a precautionary measure, schools and colleges in the region have been ordered to remain closed for two days.

## In Uttarakhand

- Authorities have urged residents to stay indoors and avoid unnecessary outings

## In Madhya Pradesh

- 4 individuals who were trapped in the Narmada River near Gopalpur Village in Jabalpur were successfully rescued by the NDRF team

## In Jammu & Kashmir

- The Amarnath Yatra, which had been temporarily halted, resumed its course via the Pahalgam route. This allowed over 6,000 pilgrims to continue their journey and offer prayers.

# DOCTORS FOR YOU PROPOSED HUMANITARIAN RESPONSE

## HEALTH CAMPS

- Health Camps in flood hit districts
- Free Health Check Ups
- NCD Screening
- Free Medicines
- Doctors consultations

## DIGNITY KITS

- Especially for Women comprising of Sanitary Pads, Marking Cloth/Towels, etc

## RATION KITS

- Family Food Packets/Rahat Kits comprising of ready to use eatable items such as Grams, Biscuits, Jaggery, Peanuts, Rice flakes, Puff rice, etc)

## WASH KITS

- Comprising of Bucket, Mug, Bleaching Powder, Chlorine Tablets, Soap, Detergent, Toothpaste, Tooth Brush, Antiseptics, Bandage, Sanitisers, etc

## SHELTER KITS

- Tarpaulin sheet, Blanket, Bedsheets, Torch, Candle, Match box, Mosquito Net, Mosquito Coil, etc

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