



Government of India  
Ministry of Earth Sciences  
India Meteorological Department



Date: 12<sup>th</sup> April, 2024

Time of Issue: 1300 hours IST

Special Message (No.- 4)

FROM: INDIA METEOROLOGICAL DEPARTMENT  
TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS  
CONTROL ROOM NDMA  
SECRETARY, MOES  
DIRECTOR GENERAL, DOORDARSHAN  
DIRECTOR GENERAL, AIR  
PIB MOES  
CHIEF SECRETARY, GOVT. OF JAMMU & KASHMIR  
CHIEF SECRETARY, GOVT. OF LADAKH  
CHIEF SECRETARY, GOVT. OF HIMACHAL PRADESH  
CHIEF SECRETARY, GOVT. OF UTTARAKHAND  
CHIEF SECRETARY, GOVT. OF PUNJAB  
CHIEF SECRETARY, GOVT. OF HARYANA  
CHIEF SECRETARY, GOVT. OF CHANDIGARH  
CHIEF SECRETARY, GOVT. OF DELHI  
CHIEF SECRETARY, GOVT. OF UTTAR PRADESH  
CHIEF SECRETARY, GOVT. OF RAJASTHAN

**Subject: Light to moderate rainfall spell accompanied with thunderstorms, gusty winds & hail over Northwest India during 13<sup>th</sup>-15<sup>th</sup> with peak intensity on 13<sup>th</sup> & 14<sup>th</sup> April, 2024.**

**Weather Systems and Forecast & Warnings:**

- ❖ An intense **Western Disturbance** as a cyclonic circulation lies over Iran in middle & upper tropospheric westerlies. High moisture feeding from Arabian Sea is likely into Northwest India during 13<sup>th</sup>-15<sup>th</sup> April. As a result:
  - ✓ Isolated light rainfall/snowfall very likely over Jammu-Kashmir, Himachal Pradesh, Uttarakhand on 12<sup>th</sup> and fairly widespread to widespread light to moderate rainfall/snowfall with **thunderstorm, lightning & gusty winds (30-40 kmph)** over the region during 13<sup>th</sup>-15<sup>th</sup> April, 2024.
  - ✓ Scattered to fairly widespread rainfall with **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over Northwest Uttar Pradesh, Punjab and Haryana during 13<sup>th</sup>-15<sup>th</sup> April and isolated to scattered light to moderate rainfall with **thunderstorm, lightning** very likely over Rajasthan during 12<sup>th</sup>-15<sup>th</sup> April, 2024.
  - ✓ **Isolated heavy rainfall/snowfall very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad during 13<sup>th</sup>- 15<sup>th</sup> and Himachal Pradesh on 14<sup>th</sup> & 15<sup>th</sup> April, 2024.**
  - ✓ **Isolated hailstorm very likely over Jammu, Rajasthan on 13<sup>th</sup>; Himachal Pradesh, Punjab, Haryana on 13<sup>th</sup> & 14<sup>th</sup> and Uttarakhand & West Uttar Pradesh on 14<sup>th</sup> April.**
  - ✓ **Dust storm/thundersquall (50-60 kmph) very likely over Rajasthan on 13<sup>th</sup> April, 2024.**
  - ✓ **Strong surface winds (20-30 kmph) very likely to prevail over Haryana-Chandigarh-Delhi and Uttar Pradesh during 16<sup>th</sup>-18<sup>th</sup> April, 2024.**

The state-wise forecast is given below: (Warning graphics are given at ANNEXURE-I)

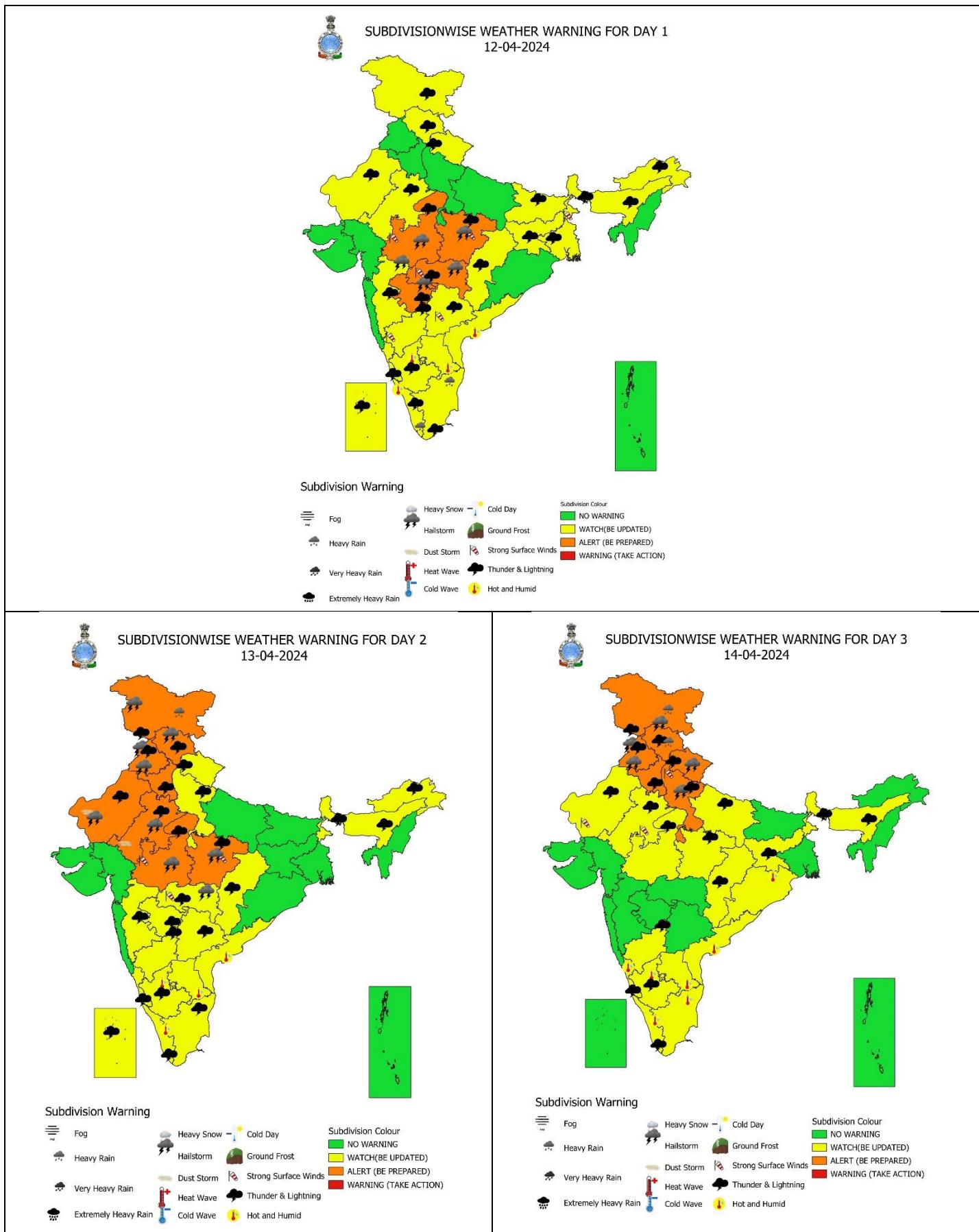
S. No.	State/sub-division	Forecast
1.	Jammu, Kashmir and Ladakh	<ul style="list-style-type: none"> <li>Light to moderate rain/snowfall accompanied with thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 40-50 kmph) at a few places on 12<sup>th</sup>; at most places during 13<sup>th</sup>-15<sup>th</sup>; at a few places on 16<sup>th</sup> April.</li> <li><b>Heavy rainfall/snowfall at isolated places also likely during 13<sup>th</sup>-15<sup>th</sup> April.</b></li> <li><b>Hailstorm also likely at isolated places on 13<sup>th</sup> April.</b></li> </ul>
2.	Himachal Pradesh	<ul style="list-style-type: none"> <li>Light to moderate rain/snowfall accompanied with thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 30-50 kmph) at isolated places on 12<sup>th</sup>; at many places on 13<sup>th</sup>; at most places on 14<sup>th</sup> &amp; 15<sup>th</sup>; at a few places on 16<sup>th</sup> April.</li> <li><b>Heavy rainfall/snowfall at isolated places also likely on 14<sup>th</sup> &amp; 15<sup>th</sup> April.</b></li> <li><b>Hailstorm also likely at isolated places on 13<sup>th</sup> &amp; 14<sup>th</sup> April.</b></li> </ul>
3.	Uttarakhand	<ul style="list-style-type: none"> <li>Light to moderate rain/snowfall accompanied with thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 30-50 kmph) at isolated places on 12<sup>th</sup>; at a few places on 13<sup>th</sup>; at most places on 14<sup>th</sup> at a few places on 15<sup>th</sup> April.</li> <li><b>Hailstorm also likely at isolated places on 14<sup>th</sup> April.</b></li> </ul>
4.	Punjab	<ul style="list-style-type: none"> <li>Light to moderate rain accompanied with thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 30-50 kmph) at many places on 13<sup>th</sup> &amp; 14<sup>th</sup>; at a few places on 15<sup>th</sup> April.</li> <li><b>Hailstorm also likely at isolated places on 13<sup>th</sup> &amp; 14<sup>th</sup> April.</b></li> </ul>
5.	Haryana, Chandigarh & Delhi	<ul style="list-style-type: none"> <li>Light to moderate rain accompanied with thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 40-50 kmph) at a few places on 13<sup>th</sup> &amp; 15<sup>th</sup>; at many places on 14<sup>th</sup> April.</li> <li><b>Hailstorm also likely at isolated places on 13<sup>th</sup> &amp; 14<sup>th</sup> April.</b></li> </ul>
6.	West Uttar Pradesh	<ul style="list-style-type: none"> <li>Light to moderate rain accompanied with thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 30-50 kmph) at isolated places on 13<sup>th</sup>; at a few places on 14<sup>th</sup> April.</li> <li><b>Hailstorm also likely at isolated places on 14<sup>th</sup> April.</b></li> </ul>
7.	East Uttar Pradesh	<ul style="list-style-type: none"> <li>Light to moderate rain accompanied with thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 30-40 kmph) at isolated places on 14<sup>th</sup> April.</li> </ul>
8.	West Rajasthan	<ul style="list-style-type: none"> <li>Light to moderate rain accompanied with thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 30-60 kmph) at isolated places on 12<sup>th</sup>; at a few places on 13<sup>th</sup> &amp; 14<sup>th</sup>; at isolated places on 15<sup>th</sup> April.</li> <li><b>Hailstorm also likely at isolated places on 13<sup>th</sup> April.</b></li> </ul>

9.	East Rajasthan	<ul style="list-style-type: none"><li>• Light to moderate rain accompanied with thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 30-50 kmph) at isolated places on 12<sup>th</sup>; at a few places on 13<sup>th</sup> &amp; 14<sup>th</sup> April.</li><li>• <b>Hailstorm also likely at isolated places on 13<sup>th</sup> April.</b></li></ul>
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For more details, kindly refer: [https://mausam.imd.gov.in/responsive/all\\_india\\_forcast\\_bulletin.php](https://mausam.imd.gov.in/responsive/all_india_forcast_bulletin.php)

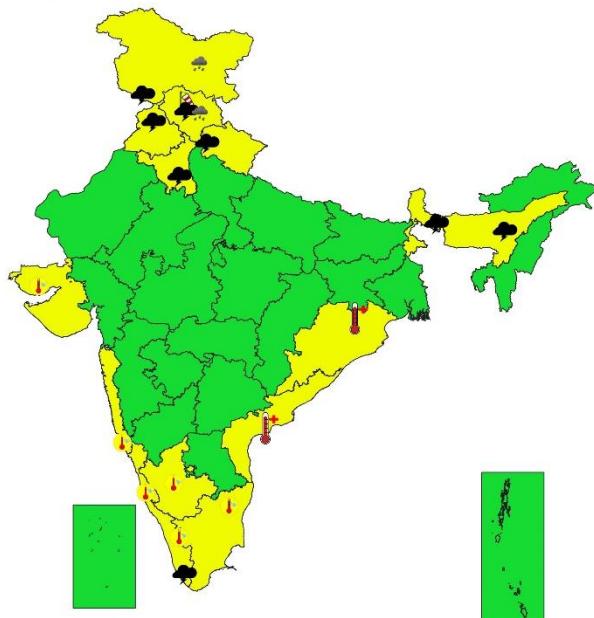
Shobhit Katiyar  
Scientist 'D'  
NWFC, IMD New Delhi

## ANNEXURE I





SUBDIVISIONWISE WEATHER WARNING FOR DAY 4  
15-04-2024

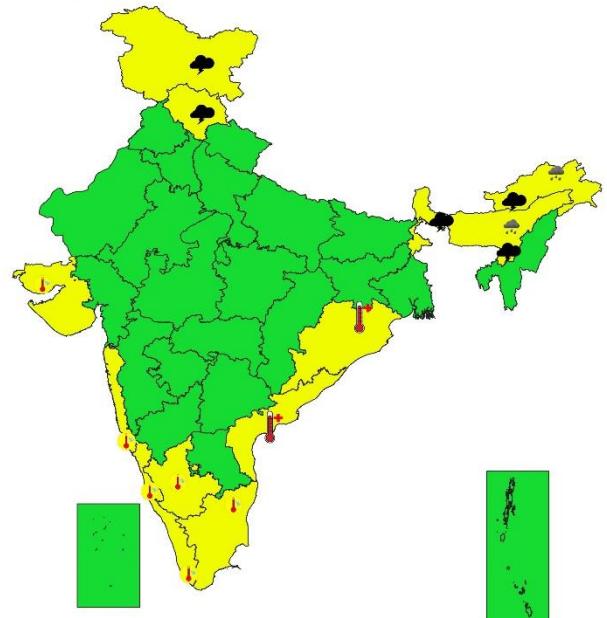


Subdivision Warning

Fog	Heavy Snow	Cold Day	Subdivision Colour
Heavy Rain	Hailstorm	Ground Frost	NO WARNING
Very Heavy Rain	Dust Storm	Strong Surface Winds	WATCH(BE UPDATED)
Extremely Heavy Rain	Heat Wave	Thunder & Lightning	ALERT (BE PREPARED)
Cold Wave			WARNING (TAKE ACTION)



SUBDIVISIONWISE WEATHER WARNING FOR DAY 5  
16-04-2024



Subdivision Warning

Fog	Heavy Snow	Cold Day	Subdivision Colour
Heavy Rain	Hailstorm	Ground Frost	NO WARNING
Very Heavy Rain	Dust Storm	Strong Surface Winds	WATCH(BE UPDATED)
Extremely Heavy Rain	Heat Wave	Thunder & Lightning	ALERT (BE PREPARED)
Cold Wave			WARNING (TAKE ACTION)

✓ **Impact expected and action suggested due to thunderstorm accompanied with lightning/gusty winds & Hailstorm over Jammu, Rajasthan on 13<sup>th</sup>; Himachal Pradesh, Punjab, Haryana on 13<sup>th</sup> & 14<sup>th</sup> and Uttarakhand & West Uttar Pradesh on 14<sup>th</sup> April.**

**Impact expected:**

- Strong wind/hail may damage plantation, horticulture and standing crops.
- Hail may injure people and cattle at open places.
- Partial damage to vulnerable structures due to strong winds.
- Minor damage to kutcha houses/walls and huts.
- Loose objects may fly.

**Action suggested:**

- Stay indoors, close windows & doors and avoid travel if possible.
- Take safe shelters; do not take shelter under trees.
- Do not lie on concrete floors and do not lean against concrete walls.
- Unplug electrical/ electronic appliances.
- Immediately get out of water bodies.
- Keep away from all the objects that conduct electricity.

**Impact & Action Suggested due to heavy rainfall over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad during 13<sup>th</sup>- 15<sup>th</sup> and Himachal Pradesh on 14<sup>th</sup> & 15<sup>th</sup> April, 2024.**

**Impacts Expected for Rain/Snow**

- Disruption of Electricity.
- Landslide, rock fall and mudslides, Blocking/washout of roads/highways/bridges Nallahs.
- Disruption of traffic flow.
- Damage to Kuccha and unsecured structures.

**Suggested Actions**

- Avoid roadway underpasses, drainage ditches, low lying areas and areas where water collects – they can unexpectedly flood or overflow.
- Stay away from power lines or electrical wires.
- Don't stay in kuchcha houses during heavy rainfall as it may collapse anytime soon.
- Drive carefully.

**Agromet advisories for Heavy Rainfall, Gusty Winds, Hailstorm and Heat Wave likely over various parts of the country**

- Harvest the matured crops, fruits and vegetables during clear weather and keep the harvested produce at safer places or cover the heaps of harvested produce in the fields with tarpaulin sheets in North-West India.
- Use hail nets or hail caps in fruit orchards to protect them from mechanical damage in North-West India.
- Make necessary arrangements for draining out excess water from crop fields to avoid water stagnation in Jammu & Kashmir and Himachal Pradesh.
- Provide mechanical support to horticultural crops & staking to vegetables in North-West India.

**Legends & abbreviations:**

- ❖ **Heavy Rain:** 64.5 to 115.5 mm; **Very Heavy Rain:** 115.6 to 204.4 mm; **Extremely Heavy Rain:** >204.4mm.
- ❖ **Obsy:** Observatory; **AWS:** Automatic Weather Station; **dist:** District; **NH:** National Highway; **KVK:** Krishi Vigyan Kendra; **DVC:** Damodar Valley Corporation; **PTO:** Part Time Office.
- ❖ **Region wise classification of meteorological Sub-Divisions:**

- **Northwest India:** Western Himalayan Region (Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Uttarakhand); Punjab, Haryana-Chandigarh-Delhi; West Uttar Pradesh, East Uttar Pradesh, West Rajasthan and East Rajasthan.
- **Central India:** West Madhya Pradesh, East Madhya Pradesh, Vidarbha and Chhattisgarh.
- **East India:** Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim; Gangetic West Bengal, Odisha and Andaman & Nicobar Islands.
- **Northeast India:** Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
- **West India:** Gujarat Region, Saurashtra & Kutch, Konkan & Goa, Madhya Maharashtra and Marathwada.
- **South India:** Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Coastal Karnataka, North Interior Karnataka, South Interior Karnataka, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal and Lakshadweep.

### SPATIAL DISTRIBUTION (% of Stations reporting)

% Stations	Category	% Stations	Category
76-100	Widespread (WS/Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespred (FWS/ Many Places)	1-25	Isolated (ISOL)

Subdivision Warning



Heavy Rain



Heavy Snow



Thunderstorms & Lightning



Hailstorm

Dust Storm



Strong Surface Winds



Heat Wave



Cold wave

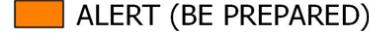


Fog

Subdivision color



NO WARNING



WATCH(BE UPDATED)



ALERT (BE PREPARED)



WARNING (TAKE ACTION)

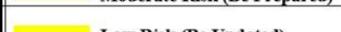
### Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75

### Flash Flood Risk



High Risk (Take Action)



Moderate Risk (Be Prepared)



Low Risk (Be Updated)