



GUIDANCE NOTE FOR STATES/UTs



Public Health Preparedness for El Nino Conditions

National Programme on Climate Change and Human Health (NPCCHH)

Purpose. To support States/UTs in anticipating, preparing for and responding to the direct and indirect health consequences of El Nino-associated heat, drought, water stress, heavy rainfall, floods and other extreme weather events, while maintaining continuity of essential health services.

EL NINO AND ITS PUBLIC HEALTH IMPLICATIONS

What is El Nino?

El Nino is a naturally occurring climate phenomenon characterized by unusually warm sea-surface temperatures in the central and eastern equatorial Pacific Ocean. It generally occurs every two to seven years and alters large-scale atmospheric circulation, thereby influencing temperature and rainfall patterns across many regions of the world, including India.

Current national and global climate assessments indicate the development and strengthening of El Nino conditions during 2026. The Ministry of Health and Family Welfare communication dated 10 July 2026, referring to the India Meteorological Department (IMD), notes the possibility of moderate to strong El Nino conditions during the southwest monsoon season. States/UTs should continue to follow the latest IMD forecasts and warnings because the timing, strength and regional expression of the event may change as the season evolves.

El Nino is a natural mode of climate variability; however, it is occurring against a background of long-term ocean and atmospheric warming. Warmer baseline conditions can amplify heat exposure, increase atmospheric moisture and contribute to more intense hydrological extremes.

Climate risks in India

El Nino has historically been associated with higher temperatures and an increased likelihood of below-normal southwest monsoon rainfall over parts of India. Actual conditions vary across States and districts and are influenced by the Indian Ocean Dipole, monsoon circulation, local geography, land-use patterns and other regional weather systems. Even during a season with an overall rainfall deficit, short-duration extreme rainfall, urban flooding, flash floods, landslides, lightning and localized disease outbreaks may occur.

Dry and wet expressions of El Nino

Risk pattern	Possible hazards	Priority public health consequences
Dry/hot conditions	Heatwaves; hot and humid conditions; prolonged dry spells; drought; water scarcity; dust and wildfire risk.	Heat-related illness and deaths; dehydration and acute kidney injury; worsening of chronic diseases; unsafe water storage; reduced hygiene; food insecurity,

Risk pattern	Possible hazards	Priority public health consequences
		undernutrition and psychosocial stress.
Wet/extreme-rainfall conditions	Short-duration intense rainfall; riverine or urban flooding; flash floods; landslides; lightning; cyclone-related rainfall in susceptible areas.	Injuries, drowning and electrocution; disruption of healthcare access; contamination of drinking-water sources; diarrhoeal diseases; leptospirosis and other outbreak-prone diseases; vector proliferation after rainfall.
Compound or cascading conditions	Heat followed by heavy rain; drought followed by floods; power failures; transport disruption; displacement; simultaneous outbreaks.	Multiple disease risks occurring together; interruption of medicines, cold chain, oxygen and diagnostics; health-facility overload; increased risks for displaced and otherwise vulnerable populations.

Major health risks

Heat & Systemic Stress	WASH, Food & Nutrition
Dehydration, heatstroke, and Acute Kidney Injury (AKI). Aggravation of heart, lung, and renal conditions.	Drought causing water scarcity; floods contaminating sources. Increased Acute Diarrhoeal Disease and food insecurity.
Infectious Disease Surges	Trauma & Mental Health
Shifts in vector breeding leading to increases in Dengue, Malaria, and Chikungunya. Risk of Leptospirosis after floods.	Injuries from lightning, landslides, and drowning. Smoke from wildfires and dust aggravating asthma. Mental health distress.

Populations Requiring Priority Attention

States/UTs should give priority to the following population groups

- Older persons, infants and young children, and pregnant and lactating women.
- Outdoor and manual workers, including those engaged in agriculture, construction, transport, sanitation and emergency response.
- Persons with cardiovascular, kidney, respiratory or metabolic diseases, mental health conditions, disabilities, or reduced mobility.

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- People living in informal settlements, poorly ventilated housing, flood-prone, coastal, drought-prone, hilly, landslide-prone, forest-fringe, tribal, remote or difficult-to-access areas.
 - Homeless persons, migrants, displaced populations, and communities with limited access to safe drinking water, sanitation, cooling, food or healthcare.

PUBLIC HEALTH PREPAREDNESS

A. Risk Assessment and Planning

States/UTs should:

- Undertake district-wise risk assessments for heat, drought, water scarcity, floods, landslides, lightning, wildfires and outbreak-prone diseases.
- Identify and map vulnerable populations, critical health facilities and essential health infrastructure.
- Review and update State and District Health Disaster Management Plans, Heat Action Plans and relevant disease-control plans, considering the potential impacts of El Nino.
- Develop contingency plans for dry, wet and compound-event scenarios, with clearly defined roles, triggers and resource requirements.

B. Early Warning and Coordination

States/UTs should:

- Review IMD forecasts, seasonal outlooks and weather warnings on a daily basis throughout the El Nino period.
- Ensure timely dissemination of health alerts to all districts and health facilities through the established communication chain.
- Activate Health Emergency Operations Centres (HEOCs), or designated control rooms, during periods of elevated risk.
- Ensure that districts acknowledge receipt of alerts and initiate preparedness measures without delay.
- Maintain regular coordination with IMD, Disaster Management Authorities and other relevant departments for timely decision-making.

C. Health Facility and Logistics Preparedness

States/UTs should ensure that health facilities:

- Maintain reliable electricity, backup power, safe drinking water, sanitation, communication systems and designated cooling areas.
- Maintain adequate stocks of ORS, IV fluids, oxygen, emergency medicines, diagnostics and other essential supplies, with district buffer stocks available where required.
- Are prepared to diagnose and manage heat-related illnesses, diarrhoeal diseases, vector-borne diseases, respiratory illnesses, injuries and other climate-sensitive health conditions in accordance with national guidelines.

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- Pre-position essential supplies in remote or high-risk areas and review transport and supply-chain arrangements.
 - Continue essential health services, including maternal and child health, immunization, dialysis, tuberculosis, HIV, mental health and NCD services during extreme weather events.

D. Preparedness for Dry and Wet Conditions

States/UTs should ensure that districts are prepared for both dry and wet manifestations of El Nino by:

- Ensuring safe drinking water, heat-health measures, nutrition support and community awareness during periods of heat, drought and water scarcity.
- Strengthening preparedness for flooding, heavy rainfall and landslides through protection of health facilities, alternate referral arrangements, WASH measures and vector-control activities.
- Preparing health facilities and communities to respond to heat-related illnesses, climate-sensitive diseases, injuries, snakebite, lightning, drowning and other health risks associated with extreme weather events.
- Supporting continuity of health services in relief camps and other emergency settings.

E. Disease Surveillance, Referral and Risk Communication

States/UTs should:

- Continue surveillance of heat-related illnesses through the IHIP–NPCCHH Heat-Related Illness Surveillance Portal and strengthen surveillance through timely reporting and regular review of surveillance data for at least till 30th September 2026.
- Continue heat-related illness surveillance during periods of elevated temperature and hot-and-humid conditions, including beyond the conventional heat season, where required.
- Ensure that Rapid Response Teams, referral hospitals, ambulance services and surge capacity remain prepared to respond to increased demand during extreme weather events.
- Disseminate public health advisories through health workers, local institutions and media, with messages tailored to prevailing risks and vulnerable populations.
- Ensure that risk communication materials are available in local languages and reach high-risk and hard-to-reach communities.

F. Intersectoral Coordination, Monitoring and Review

States/UTs should:

- Maintain effective coordination with Disaster Management, Water and Sanitation, Agriculture, Urban Development, Rural Development, Labour, Education, Forest, Power, Transport, Local Bodies and other relevant departments.

- Undertake joint preparedness activities for water safety, vector control, food and nutrition, occupational safety, relief camp management and continuity of essential health services.
- Periodically review district preparedness using standard monitoring indicators covering early warning, health facility readiness, logistics, surveillance, referral services and risk communication.
- Document operational experiences, best practices and lessons learnt to strengthen preparedness and response for future climate events.

G. Enhanced Monitoring of Heat-Vulnerable Districts

States/UTs should:

- Continue enhanced monitoring of the 100 Heat-vulnerable districts that reported the highest number of cases and the deaths.
- Ensure regular review of heat-related illnesses and other climate-sensitive health events using the available surveillance platforms.
- Monitor district-level health facility readiness, including the availability of essential medicines, ORS, IV fluids, oxygen, referral services and emergency response capacity.
- Ensure that any unusual increase in heat-related illness, disease outbreaks, mortality or disruption of essential health services is reported immediately through the prescribed reporting channels.
- Regularly review preparedness and response activities in the identified districts and address gaps through supportive supervision and intersectoral coordination.

REFERENCES AND OPERATIONAL RESOURCES

1. Ministry of Health and Family Welfare, Government of India. D.O. No. Z.28015/48/2025-DMCell, dated 10 July 2026: preparedness during the southwest monsoon season.
2. World Meteorological Organization. El Nino/La Niña Update, May 2026; and subsequent WMO seasonal climate updates.
3. National Centre for Disease Control, Ministry of Health and Family Welfare. National Programme on Climate Change and Human Health: national guidance and resources on heat-related illness and death surveillance.
4. National Disaster Management Authority. SACHET National Disaster Alert Portal.
5. National Centre for Disease Control. Integrated Disease Surveillance Programme and relevant national guidelines for outbreak-prone diseases.
6. National Center for Vector Borne Diseases Control. National guidelines and advisories for prevention and control of vector-borne diseases.
7. Pan American Health Organization/World Health Organization. Public Health Situation Analysis: El Nino in the Americas, 2026–2027. Used for general hazard-health framing; India-specific actions should follow national guidance.