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A BAD CLIMATE

THE CLIMATE CRISIS IS PUTTING WORKERS AT POTENTIALLY DEADLY RISK

Hot, cold, wet and wild. The weather is getting more unpredictable and more extreme. The ITUC looks at the new risks emerging as a result of the climate crisis which have seen emergency preparedness become an essential part of a workplace safety policy.

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It is much more than a spell of unsettled weather. A World Health Organisation (WHO) December 2023 statement noted the year had witnessed "an alarming surge in climate-related disasters, including wildfires, heatwaves and droughts, leading to the displacement of populations, agricultural losses and heightened air pollution."

And that made for a big problem at work. While injuries, stress and strains might be the bread and butter issues for trade union safety reps, the climate crisis dictates a new issue is worming its way onto the safety committee agenda – emergency preparedness.

Whether you are baking outdoors or wading to work, the changing climate has made working and frequently just getting to work an increasingly challenging prospect for many workers.

In response to the accelerating crisis, the International Trade Union Confederation (ITUC) declared the theme for International Workers' Memorial Day on 28 April 2024 as 'Climate risks for workers'. ITUC says extreme weather and changing weather patterns are affecting job security and health for workers.

Heat-related deaths and diseases in workers in agriculture, construction and other outdoor jobs have soared, the global union body adds, with work in extreme weather causing fatigue and increases in workplace injuries and stress-related disease.

Not all the at-risk jobs are so obvious. During heatwaves in 2023, postal workers and delivery drivers were among those reported to have died from heat stroke while working. There are genuine reasons to be concerned that neither employers nor regulators are treating the problem with the seriousness it deserves.

ACTION DAY: ITUC declared climate risks for workers the theme for International Workers' Memorial Day on 28 April 2024. Check out the ITUC-Hazards events and resources webpages. www.28april.org #iwmd24.

Graphic: Ned Jolliffe/Rory O'Neill

The US Postal Service received a fine of just $15,625 over its failure to protect workers from heat after a letter carrier died of heat stroke in Dallas.

Eugene Gates collapsed while delivering mail on 20 June 2023, a day when the US National Weather Service had issued an excessive heat warning. His union, the National Association of Letter Carriers, which lists a series of recent heat-related workplace deaths in postal delivery workers, said Gates was one of

potentially thousands of postal service workers who did not receive proper heat safety training or protection in accordance with the Postal Service's own policies.

Managers across the agency "falsified" official records to hide the lack of training, the union said.

A September 2023 International Labour Organisation (ILO) policy brief, **Occupational safety and health in a just transition**, noted the climate crisis "without proper controls in place, may increase the risk for injury, disease and death for workers due to heat stress, extreme weather events, exposure to hazardous chemicals, air pollution and infectious disease, among others".

ILO added: "Numerous health effects on workers have been linked to climate change, including injuries, cancer, cardiovascular disease, respiratory conditions, and effects on their psychosocial health. There has been an increase in the estimated number of deaths among the global working-age population due to exposure to hot temperatures."

A June 2023 **discussion on just transition at the ILO's International Labour Conference** warned there was a need to "urgently implement occupational safety and health measures for all workers impacted by climate-related risks and extreme weather events addressing the consequences on mental and physical health and promoting safe and healthy working environments."

Reinforcing the message, an April 2024 ILO guide to occupational safety impacts of climate change, notes "**strong evidence** demonstrates that climate change and environmental degradation present an increased risk of occupational injury, disease and death."

Research indicates that this is in many instances no accident of chance or inevitable misfortune.

In a 2024 study published in the **Annals of the American Association of Geographers**, an international team of researchers who examined the links between global trade and the risks to workers associated with climate change, concluded "they emphasise economic influence over environmental risk, the manner in which climate change impacts are articulated through global economic processes that are inherently dynamic and connected to global processes of trade."

The researchers, from Bangladesh, Cambodia, Sri Lanka and the UK, noted: "Wherever the lens of climate vulnerability is trained, precarity and inequality emerge as 'pervasive non-resilient outcomes.' Disasters do not, in other words, 'fall from the sky', but are created by social injustice."

HEAT-RELATED INJURIES

As the temperature increases, so does the rate of workplace injuries. The UN's International Labour Organisation (ILO) estimates that worldwide in 2020 there were 22.85 million occupational injuries, 18,967 deaths and 2.09 million disability-adjusted life years (DALYs) lost to occupational injuries attributable to workplace heat exposure.

A UCLA study in 2021 found that even a modest increase in workplace temperatures led to 20,000 additional injuries per year in California, with a social cost of US$ 1 billion.

The study found that on days with temperatures above 32°C, workers have a 6 to 9 per cent higher risk of injuries than they do on days with cooler temperatures. When the thermometer tops 38°C, the risk of injuries increases by 10 to 15 per cent.

The authors noted their study echoed the results of a 2019 National Bureau of Economic Research study that identified how extreme temperatures raise injury risk in the US mining industry.

According to a May 2023 briefing from the US thinktank Public Citizen, for every 1°C increase above ambient temperature there is a 1 per cent increase in injuries, with the effect even more marked at higher temperatures.

Photo: Jawad Qasrawi

JUST SAY NO: With the climate crisis accelerating, workers will increasingly face 'natural' dangers in the workplace, a report from the US National Employment Law Project has warned. It argues workers will increasingly need to exercise their right to refuse dangerous work – and need additional new rights on top.

Certain occupations are at particular risk.

Research published in the Annals of the American Association of Geographers in 2024, looking at brick production in the South Asian brick belt, noted: "Bricks, as in India, are made throughout the hottest part of the year, during which time workers are compelled to work in the intensity of direct sunlight with little access to shade."

It pointed to evidence that "many of the industry's labourers are debt bonded, made to work – alongside their families in many cases – in unhealthy and sometimes lethal conditions to pay off interest on long-term debts accrued outside of the kiln. Viewed on its own terms, this is an issue of considerable significance."

Other outdoor jobs present predictable – and preventable – risks. A 2019 paper in the American Journal of Industrial Medicine noted: "Construction workers, comprising 6 per cent of the total workforce, accounted for 36 per cent of all occupational heat-related deaths from 1992 to 2016 in the US. Mean temperatures from June to August increased gradually over the study period. Increasing summer temperatures from 1997 to 2016 were associated with higher heat-related death rates."

Agricultural work is also a high risk occupation, with a 2015 paper in the American Journal of Industrial Medicine concluding that farmworkers are 35 times more likely to die of heat-related death than workers in other occupations.

A 2018 paper in the Journal of Nursing Scholarship found that 84 per cent of farmworkers in Florida reported at least one symptom of heat-related illness during a week, while 40 per cent reported three or more symptoms.

Despite the relative ease of introducing lifesaving interventions, local ordinances in the US requiring provision of water, rest breaks and shade for outdoor workers toiling in high temperatures, have been struck down by state legislatures in Florida and Texas.

Some crops, like palm oil – used in food processing, detergents and as a thickener in cosmetics – produced in baking plantations and processing mills from Brazil to Ghana and Malaysia and employing over 1 million workers worldwide, are largely an industrial product for export rather than an essential food product. As a consequence, much of the research on the impact of climate change on this industry has concentrated on potential harm to the crop and not the workers.

While much of the cost of work in poor conditions is borne by workers, their families and communities, it can also affect the bottom line. Work productivity is reduced at high temperatures, because it is either too hot to work or workers have to work at a slower pace. In 2019, ILO projected that by 2030, 2.2 per cent of total working hours worldwide will be lost to high temperatures – a productivity loss equivalent to 80 million full-time jobs.

'Working on a warmer planet: The effect of heat stress on productivity and decent work', a 2019 report from the ILO, concludes that if nothing changes, the problem could reduce global GDP by US$2.4 billion in 2030.

HEAT-RELATED ILLNESSES

A 2024 ILO global analysis of climate models, global temperature projections, labour force data and occupational health information calculated at least 2.41 billion full-time workers were exposed to workplace heat in 2020. And for many across a diverse range of sectors, these exposures can be seriously bad for their health.

Heat-related illnesses range in severity from mild heat rash and swelling, worsening to heat stress and heat exhaustion, and to more severe and potentially fatal illnesses such as rhabdomyolysis (muscle damage), acute kidney injury, heat stroke and heat stress-induced cardiac arrest. Workers with pre-existing health conditions, like diabetes, lung or heart disease, can be particularly at risk (*Hazards* 162).

A recently recognised condition, chronic kidney disease of unknown aetiology (CKDu), has been observed in banana workers and others conducting heavy manual labour in hot temperatures, killing thousands each year. A 2016 paper in the Clinical Journal of the American Society of Nephrology suggested CKDu could represent one of the first climate change-induced epidemics.

WHO/ILO joint estimates, published in the journal Environment International in 2023, suggest in 2019 1.6 billion workers worldwide were occupationally exposed to solar UV radiation, "which equates to 28.4 per cent of the working-age population." It is the single most common occupational cancer risk factor where workers are routinely exposed to levels in excess of recommended daily thresholds.

UV exposures can also cause irreversible harm to the eyes, either through injury from very high short term exposures, or long-term, causing macular degeneration, eye tumours and cataracts.

Study findings published in BJOG, an International Journal of Obstetrics & Gynaecology, in April 2024 reported working in extreme heat can double the risk of stillbirth and miscarriage for pregnant women. Eight hundred pregnant women in the southern Indian state of Tamil Nadu took part in the study, all involved in moderate to heavy work.

Almost half (47.3 per cent) worked in jobs where they were exposed to high levels of heat, such as agriculture, brick kilns and salt flats. The others worked in cooler environments, such as schools and hospitals, although some workers were also exposed to very high levels of heat in those jobs too.

WOMEN'S WORK: A 2024 study of female brick workers and other women involved in heavy work in Tamil Nadu, found those working in hot conditions has significantly high rates of adverse pregnancy outcomes.

The study found the rate of adverse pregnancy outcomes for heat exposed women was 5 per cent compared to 2 per cent to unexposed workers. The still or premature birth rate was 6.1 per cent for exposed workers, compared to 2.6 per cent in unexposed, and 8.4 per cent for low birth weight, compared to 4.5 per cent.

Indoor workers can also be at risk. Stifling temperatures, particularly where processes generate heat like bakeries, foundries, laundries and glassworks, can affect concentration and cause potentially serious physical and mental distress.

EXTREME WEATHER

Storms, hurricanes, floods, snow blizzards, lightning, tornadoes, wildfires and high winds are all part of the climate change package.

When an extreme weather event saw tornadoes rip through large swathes of the US Midwest on 10 December 2021, workers died because their employers refused them permission to abide by emergency warnings and skip work or proceed to a place of safety.

EXTREME WEATHER: Whether you're freezing outdoors, wading to work or simmering slowly in the office, the changing climate has made working and sometimes even getting to work an increasingly challenging prospect for many workers.

In Kentucky, eight workers died when the Mayfield Consumer Products candle factory was razed to the ground. They had been told they would be fired if they left the workplace. US safety regulator OSHA fined the non-union firm $40,000 for seven 'serious' safety violations related to the deaths.

Lawyers acting for injured former workers, filed a federal charge to the National Labor Relations Board (NLRB), arguing that Mayfield Consumer Products retaliated against former employees who cooperated with the OSHA investigation. They added that those involved in the case have been further penalised.

"Mayfield Consumer Products, after we filed the lawsuit on behalf of our clients, responded by cutting their workers' compensation benefits. Now, we have clients experiencing medical expenses that would normally be paid by workers' compensation being denied because those benefits have been cut," said William Nefzger, one of the attorneys acting for the workers.

The same day, six workers died when a tornado-hit Amazon warehouse in Edwardsville, Illinois, collapsed. A statement from the Retail, Wholesale and Department Store Union (RWDSU) criticised Amazon for allegedly requiring its workers to continue working through a major tornado.

Stuart Appelbaum, president of RWDSU, said: "Time and time again Amazon puts its bottom line above the lives of its employees. Requiring workers to work through such a major tornado warning event as this was inexcusable."

He added: "This is another outrageous example of the company putting profits over the health and safety of their workers, and we cannot stand for this. Amazon cannot continue to be let off the hook for putting hard working people's lives at risk." Amazon's employee handbook

notifies workers they can be fired for leaving without permission.

A 26 April 2022 letter from the regulator **OSHA**, which did not file charges against Amazon, raised concerns about the company's handling of the incident, including an unnecessarily convoluted process for raising the alarm.

When the order to shelter in place first came through, managers had to yell to employees instead of using a megaphone since the megaphone was "locked in a cage and not accessible." Some workers didn't know where the designated shelter in the facility was, the letter said, while others had never done a tornado drill.

Photo: IAFF Local 997

WILDFIRE: Two people and thousands of cattle were killed in a March 2024 Texas wildfire. The Smokehouse Creek Fire, the US state's largest ever, spanned over 1 million acres, and devastated cattle ranches, destroyed homes and left a blackened landscape in its wake. One of the dead was a female truck driver, Cindy Owen. The 44-year-old was driving home from Oklahoma to Amarillo when the fire surrounded her truck. She died in hospital a day later.

Wildfires – which have become much more frequent as a consequence of climate change – can be deadly, with emergency workers at particular risk. It is not just the heat and flames – the smoke is a real killer.

In 2023, **Spanish trade unions CC.OO, UGT and CSIC** representing firefighters employed at the Andalusia Environment and Water Agency (AMAYA), won recognition that the smoke was carcinogenic.

In Australia, widespread **bushfires have been linked to hundreds of additional deaths** each year from respiratory and heart conditions.

The **US government's safety research agency NIOSH** says common hazards faced by firefighters working on the fire line "can include burnovers/entrapments, heat-related illnesses and injuries, smoke inhalation, vehicle-related injuries (including aircraft), slips, trips, and falls, and others. In addition, due to prolonged intense physical exertion," they may be "at risk for sudden cardiac deaths and rhabdomyolsis."

Floods can make transport hazardous for all workers and come with an increased risk of infections. Depending where in the world you are, that could be anything from colds to cholera. Agricultural workers could be left with a dangerous job or no job at all.

Floods can create a risk from diseases associated with backflow of sewage, conditions like Weil's disease linked to rodents and from

mould exposures. Risks from debris like fallen trees or water ingress compromising electrical or fire safety can make work dangerous or impossible.

A guide to 'Health and safety in flooded areas' prepared by the UK national union federation TUC, says "every employer should have a 'disaster recovery plan' in place, agreed with the union, which should be regularly reviewed."

Cold weather is the flip side of the extreme temperature problem at work. When the temperature dips below -10°C there is a risk of hypothermia or frostbite if outside for long periods without adequate protection. Wind chill can greatly heighten the risks. Other cold related conditions affecting outdoor workers include trench foot and chilblains.

Slips, falls and vehicle accidents can increase as a result of snow, ice and frost. Snow can obscure dangers, including fall hazards or fragile roof panels.

POLLUTION PROBLEM

Air pollution and smog events can create acute and long-term health risks. A 2023 paper in the Journal of Occupational and Environmental Hygiene noted that the increasing impact of climate change on levels of air pollutants will disproportionately impact outdoor workers, with increased exposure to PM2.5, ozone and allergens, adding: "The impact of these exposures is often heightened by the physical demands related to many outdoor occupations." The paper noted: "This study illustrates that workers are experiencing increased morbidity and mortality related to climate change."

The 2021 joint WHO/ILO global estimates of the occupational disease burden suggest more than 770,000 deaths a year can be attributed to occupational exposure to air pollutants, but ILO adds the real magnitude of the health impacts from workplace air pollution is likely to be much higher.

ILO notes pollution of air at the workplace, either indoors or during work outdoors, can cause a range of acute and chronic health impacts, including cancer, stroke, respiratory disease, cardiovascular disease and other health issues.

And climate change can make the every day hazards at work worse. ILO's 2023 guide on risks posed by chemicals as a result of climate change, warns unanticipated risks can include an increased use of hazardous pesticides, to cope with changes in the impact of pests on crops and livestock. Many processes, like foundries and chemical production, can be designed for continuous operation. Extreme weather events can interrupt these processes or essential safety measures with potentially devastating consequences.

CLEANING UP: Recovery workers can face a high risk of injury or disease from handling debris and materials contaminated with sewage and chemicals.

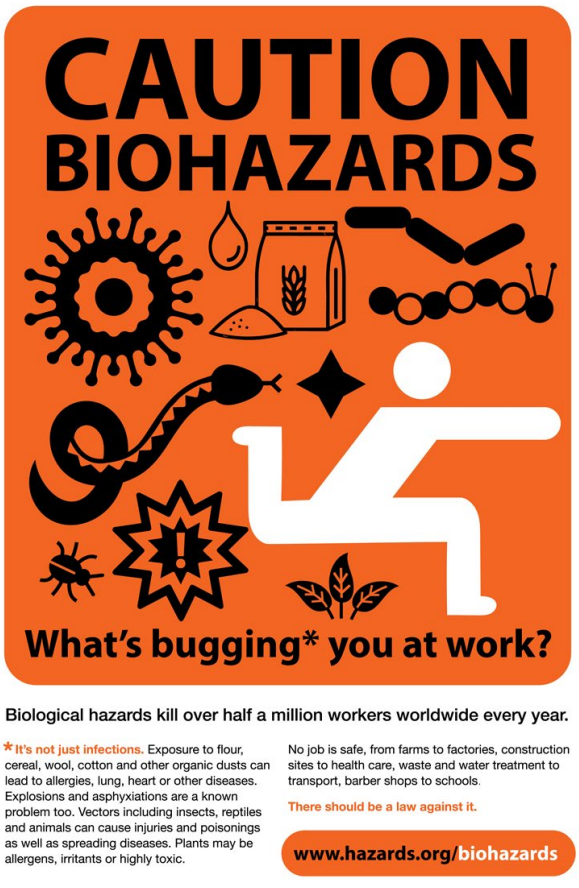
Workers involved in the emergency rescue, clean-up and restoration response to extreme weather events can be at high risk, by necessity working when conditions may be at their most dangerous and often for long hours, sometimes without the necessary support and protective equipment.

Essential workers – those providing our health care, transport, food and other life-and society-sustaining services – may be at heightened risks as they will usually be required to work but may not be considered high risk under normal circumstances, so may not have the necessary training, protective clothing or equipment.

INFECTIONS RISK

Infections are also an increasing threat at work. "The climate crisis, urbanisation and changing land use are impacting on occupational health and safety and have led to biological hazards posing new risk or risks in new places," a December 2023 ITUC briefing on biological hazards notes.

ILO's September 2023 policy brief, 'Occupational safety and health in a just transition' (*Hazards* 164), warns "risks from vector-borne diseases, such as malaria or dengue fever, will increase with warming temperatures, including potential shifts in geographic range of these vectors as a result of climate change.



"This development affects all workers, especially outdoor workers who are at higher risk of contracting vector-borne diseases, from vectors such as mosquitoes, fleas and ticks. Moreover, infectious diseases may also affect workers via waterborne and foodborne pathogens, such as Salmonella spp. when they have direct contact with contaminated water or food."

WHO's December 2023 statement noted: "The ongoing climate crisis has significantly increased the risk of life-threatening diseases such as cholera, malaria and dengue."

Photo: ILO

CLIMATE RISKS MAKE THE RIGHT TO REFUSE ESSENTIAL

With the climate crisis accelerating, workers will increasingly face natural dangers in the workplace, a report from the US National Employment Law Project warned. It argues workers will increasingly need to exercise their right to refuse dangerous work – and need additional new rights on top.

The report, 'The Right to Refuse Unsafe Work in an Era of Climate Change', notes: "In the environment we face now, workers need more than 20th century health and safety regimes to keep themselves safe. There must be a rebalancing of power so that workers can exercise more autonomy over their workplace safety.

"They must have a real right to refuse dangerous work in the face of natural disasters, and it must be supported with job-protected rights to paid leave, anti-retaliation provisions with meaningful penalties for noncompliance, and expansive unemployment insurance benefits."

The report concludes: "In a workplace that is dangerously hot (or cold), or where flooding is imminent or there is the real possibility of a roof collapsing, workers should not have to stay onsite while bureaucratic systems play out.

"To ensure that workers feel comfortable availing themselves of this right, it must come with supports like job-protected paid leave and anti-retaliation provisions with meaningful penalties for noncompliance.

"And as a backstop for workers, the unemployment insurance system must improve the scope and implementation of Disaster Unemployment Assistance so that it is a true support in the wake of a disaster. Finally, the unemployment insurance system must take environmental hazards and employer practices into account when defining 'suitable work' offers for those seeking to recover from natural dangers at work."

Article 13 of the ILO occupational safety and health convention, Convention 155, says any workers who believe their work presents "an imminent and serious danger" to life "shall be protected from undue consequences in accordance with national conditions and practice."

Article 19 adds that where "a worker reports forthwith to his immediate supervisor any situation which he has reasonable justification to believe presents an imminent and serious danger to his life or health; until the employer has taken remedial action, if necessary, the employer cannot require workers to return to a work situation where there is continuing imminent and serious danger to life or health."

Convention 155 is an ILO 'fundamental' convention, so these requirements should be respected across all ILO's 187 member states.

www.nelp.org

FEELING THE HEAT – A HAZARDS SYMPTOMS CHECKLIST

Heat-related ill-health can be a risk in all jobs. Be alert for the symptoms.

Heat stress: Your early warning sign. Watch out for: dehydration (being thirsty); muscle cramps; heat rash (prickly heat or miliaria); confusion.

Heat exhaustion: Headache; nausea; dizziness; weakness; irritability; heavy sweating; decreased/very dark urine; visual disturbance; palpitations.

Heat stroke: The most serious heat related condition. Red, hot, dry skin; sweating stops; high body temperature; confusion/irrational behaviour; fainting/dizziness (heat syncope); convulsions. Can be fatal.

Work injuries: Hot work can affect concentration and cause fatigue, leading to a higher risk of dangerous incidents and injuries. Sweaty palms, sweat in the eyes or fogged up glasses can increase risks.

Other effects: Sunlight causes macular degeneration (progressive damage to eyesight). Kidney disease has been linked to high temperatures and dehydration in outdoor workers. Skin damage and skin cancer are associated with over-exposure to sunlight. Rhabdomyolysis – serious damage to muscles – is linked to heat stress and prolonged physical exertion. Over exposure to heat can cause heart arrhythmias, 'sticky blood' and a greater risk of heart attacks. Swelling (heat oedema).

Heat illnesses get worse fast. Be alert for heat stress. Seek medical help immediately if a worker shows signs of heat exhaustion or heat stroke.

www.hazards.org/heat

RESOURCES

- *Hazards* climate and workers' health webpages.
- *Hazards* biological hazards webpages.
- ILO climate change and jobs webpages.
- ITUC climate change webpages.
- ITUC global shifts – just transition webpages.
- LOHP Collective Bargaining for Health and Safety, Emergencies and disasters section.
- EU-OSHA OSH-Wiki. Climate Change: Impact on Occupational Safety and Health (OSH).
- ETUI: Workers and the climate challenge, HesaMag #28, Winter 2023.

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