International Labour Organization

▶ ILO brief

▶ Factsheet

Impacts of heat stress on jobs and productivity in the Maldives

Climate trends in the Maldives over the past three decades

Country background

The Republic of the Maldives is an island nation in the Indian Ocean that comprises 26 atolls and 1,192 coral islands, of which 188 are inhabited (Fig. 1). The country's 298 km^2 land surface is dispersed over ~90,000 km^2, making it one of the most geographically dispersed countries. With an average elevation of 1.5 m above sea level and about 80% of its land area situated less than 1 metre above sea level, it is the planet's lowest-lying nation. The Maldives had the highest GDP per capita in South Asia in 2023, and health and education indicators similar to those of high-income economies, despite land dispersion, a small population, and limited natural resources.[i] Tourism is the backbone of the Maldivian economy, accounting for 30% of GDP[ii] and indirectly contributing to related sectors such as transportation and retail.[ii] Fisheries is the Maldives' second-largest economic sector, accounting for 4.5% of GDP and contributes 50% of the country's merchandise exports.[i] The transportation and communication sectors are critical to supporting the Maldives' dispersed island geography, facilitating connectivity for both residents and tourists.[iii]

Climate

The Maldives has a tropical monsoon climate characterized by warm and humid conditions throughout the year, with relatively high levels of precipitation.[ii] Historically, the mean annual temperature has been 27.6°C, with minimal inter-seasonal variability as monthly average temperatures typically fluctuate by no more than 1°C.[ii] The seasonal temperature cycle is most pronounced in the northern regions of the Maldives, where both average maximum temperature values reach their peak just before the onset of the southwest monsoon (April-May).[ii] The average minimum temperature drops to around 27.3°C prior to the northeast monsoon (December–January).[ii] In contrast, the southern equatorial regions receive precipitation year-round and are less affected by the dry spell typically associated with the northeast monsoon.[ii]

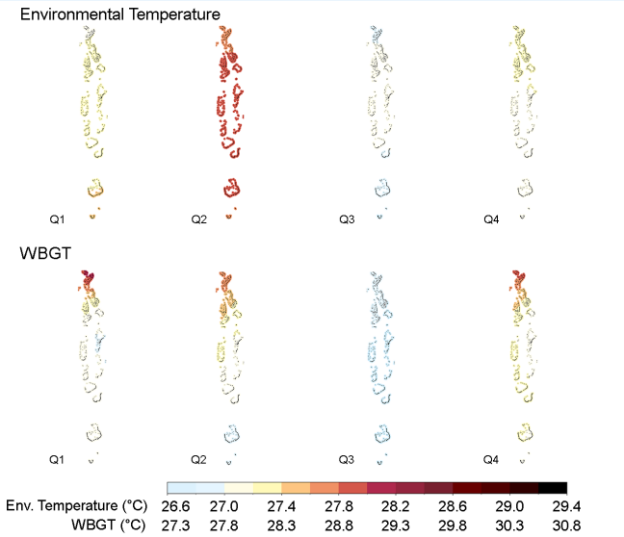
Figure 1. Maldives physical map.[iv]

▶ **Temperature vs. WBGT:** Different metrics paint different pictures. Temperature maps highlight thermal peaks in Q2, while Wet-Bulb Globe Temperature (WBGT)[v] maps identify a north-south

gradient and highest occupational risk in Q1 and Q4 because of humidity and wind conditions.

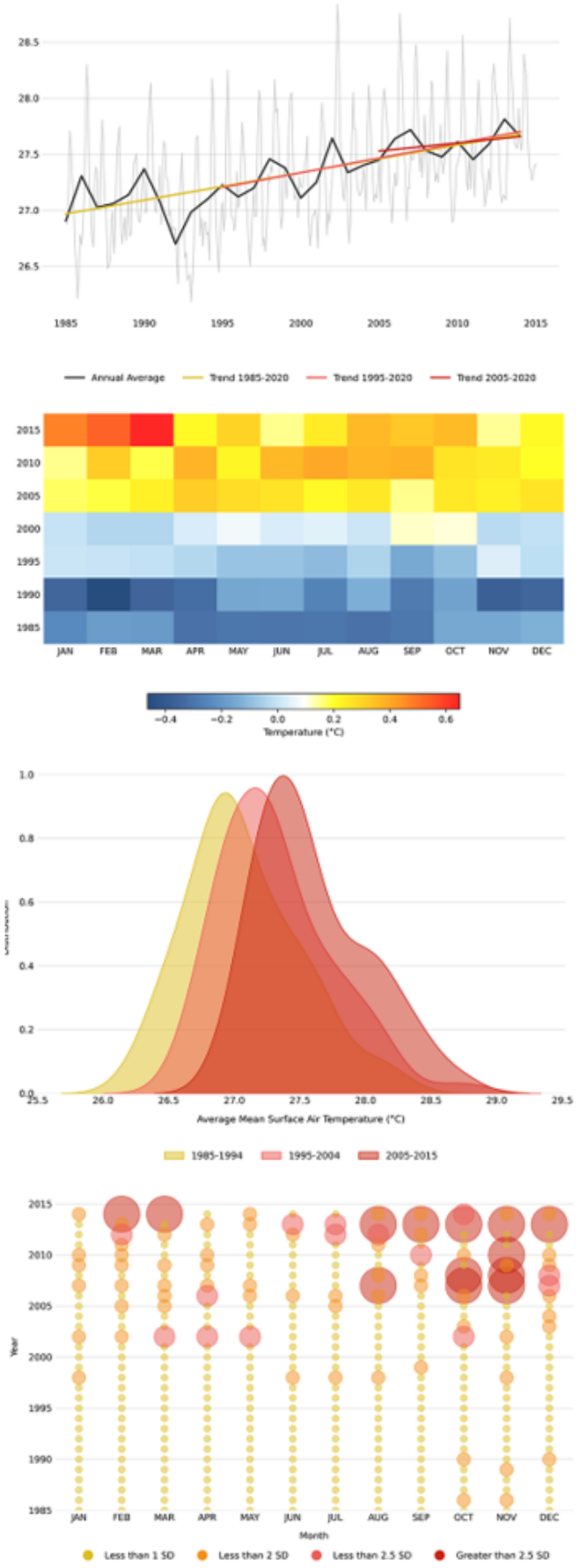
- **Policy implications:** Relying solely on ambient temperature data may over-estimate heat risk in Q2 (particularly in the south) and under-estimate risks Q1 and Q4 in the north. Employing WBGT as a heat assessment measure can provide a more accurate foundation for developing occupational safety guidelines, especially in labour-intensive sectors.

Figure 2. Quarterly average maximum environmental temperature (top) and WBGT (bottom) across Maldives during the reference historical period (1985-2014).



Climate data covering the last three decades show a clear and accelerating warming trend in the Maldives; warming has intensified, particularly in the period 2010-2014, while the frequency and intensity of extreme temperature events are increasing (Fig. 3).

Figure 3. Climatological trends in the Maldives during 1985-2015: average daily mean environmental temperature trends (first and second graphs); change in distribution of average mean environmental temperature (third graph); change in intensity of extreme daily maximum temperature events (fourth graph).



Climate change is a critical threat to the Maldives, necessitating substantial investments in climate adaptation and disaster risk management. The main impacts on key industries are:

- **Tourism:** Tourism is the backbone of the Maldivian economy, contributing ~30% of GDP and employing 25% of all women and 33% of men. Although instrumental in driving economic growth and improving infrastructure, tourism also underscores the country's vulnerability to external shocks and environmental challenges.
- **Fisheries:** This sector accounts for ~4.5% of GDP, contributes 50% of the country's merchandise exports, and provides direct or indirect income to over 20% of the population and plays a crucial role in food security. However, the sector faces challenges from overfishing, rising sea temperatures, and climate change impacts on marine ecosystems.
- **Construction:** A vital driver of economic activity, construction accounts for 12% of GDP growth. However, construction projects rely heavily on expatriate labour, further emphasizing the importance of developing local expertise in technical fields.

Future heat exposure and impacts on productivity

To understand how future heat conditions might affect working people in the Maldives, this analysis uses four "storylines" known as Shared Socioeconomic Pathways (SSPs). These scenarios were used by the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report[vi] to describe how different levels of greenhouse gas emissions might impact our world. In simple terms, they help us imagine a range of possible futures: from a sustainable world with clean energy (SSP1-2.6) to one that continues heavy use of fossil fuels (SSP5-8.5).

By considering these global SSPs, Maldivian policymakers can better understand the potential risks and opportunities that different climate futures may bring. For instance, adopting policies aligned with a more sustainable scenario (e.g., SSP1-2.6) could help mitigate the severity of heat stress, protect worker health, and reduce economic losses from reduced productivity. Conversely, inaction or insufficient adaptation measures (e.g., SSP5-8.5) might expose the Maldives to extreme heat conditions, with significant repercussions for labour productivity and overall economic resilience. In essence, the global SSPs enable the Maldives to tailor its climate adaptation and economic policies to protect its citizens and secure a more stable, sustainable future.

Table 1. Characteristics of the global SSPs used in the present study.

SSP	Scenario	Estimated warming (2041-2060)	Estimated warming (2081-2100)	Very likely range in °C (2081-2100)
SSP1-2.6 (Sustainability Pathway)	**Low GHG emissions** CO_2 emissions cut to net zero around 2075	1.7	1.8	1.3 – 2.4
SSP2-4.5 (Middle of the Road Pathway)	**Intermediate GHG emissions** CO_2 emissions around current levels until 2050, then falling but not reaching net zero by 2100	2.0	2.7	2.1 – 3.5
SSP3-7.0 (Regional Rivalry Pathway)	**High GHG emissions** CO_2 emissions double by 2100	2.1	3.6	2.8 – 4.6
SSP5-8.5 (Fossil-fueled Development Pathway)	**Very high GHG emissions** CO_2 emissions triple by 2075	2.4	4.4	3.3 – 5.7

Key: GHG = greenhouse gas.

Future heat exposure

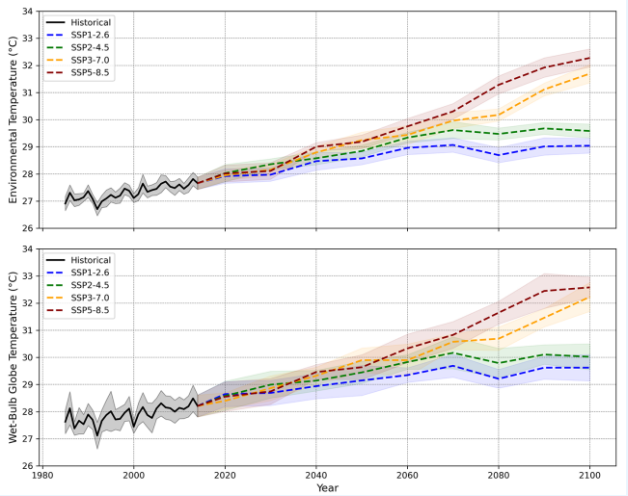
The analyses conducted in the main part of the report indicate that the Maldives is projected to experience a significant rise in both ambient temperature and WBGT compared to historical conditions (1985-2014). Even the lower-emission scenarios (SSP1-2.6 and SSP2-4.5) suggest warming of 2-2.5°C for maximum temperature, while the highest emission pathways (SSP3-7.0 and SSP5-8.5) indicate increases of up to 5°C by late century. The WBGT trends follow a similar pattern, with low-emission trajectories adding around 2°C by 2100 and high-emission pathways reaching as high as 5°C, denoting severe heat stress.

These projections emphasize that the level of warming that the Maldives will face depends largely on global emissions and that more ambitious mitigation leads to less severe impacts. But, even lower-emission scenarios (SSP1-2.6 and SSP2-4.5) pose a substantial risk to health and labour productivity, necessitating the adoption of adaptation measures and strategies to protect workers from rising heat.

Future climate in the Maldives

Across all SSPs, the analyses for the Maldives suggest a clear warming trend, with varying degrees of severity depending on the scenario (Fig. 4). Even in the most optimistic scenarios (SSP1-2.6 and SSP2-4.5), the Maldives will face increases of 2-2.5°C. The high emission scenarios (SSP3-7.0 and SSP5-8.5) suggest more significant warming of up to 5°C. Without effective adaptation strategies, these would lead to significant health impacts and severely reduce the capacity to perform manual labour.

Figure 4. Average maximum environmental temperature (top) and WBGT (bottom) with 95% confidence intervals across the different SSPs in the Maldives.



Productivity loss due to rising heat stress from climate change

The physical effort required for high-intensity work naturally increases the body temperature and produces metabolic heat.[vii,viii] When this internal heat generation combines with external (environmental) heat stress, the body's cooling mechanisms can be overwhelmed.[viii] Workers engaged in physical work are, therefore, at a greater risk of experiencing the negative effects of heat.[ix] As the body becomes stressed by the combined internal and external heat loads, it responds by slowing down work pace as a protective mechanism. This slowdown can lead to significant loss of labour productivity.[x,xi,xii]

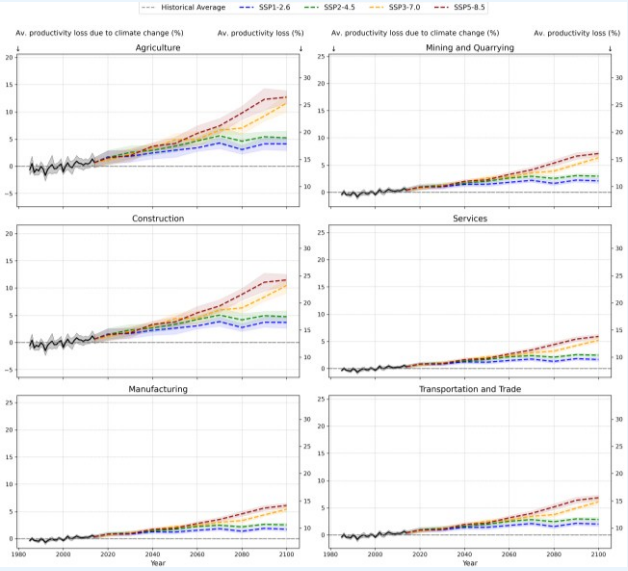
Reduced labour productivity under high heat stress is not only a matter of slower movement; it also includes reduced work output, and increased error rates. This occurs because workers must take more frequent breaks, reduce their pace, or even stop working to avoid heat-related health risks.[x,xi,xii] The cumulative effect of these adjustments is a measurable loss in productivity, as well as increased risks of accidents and long-term health impacts.[x,xi,xii] This also has particular implications for workers in the informal economy, as well as for micro, small and medium enterprises, which often have limited adaptation capacities.[xiii]

The analysis of productivity loss due to rising heat stress from climate change is illustrated in Fig. 5 (for the average, experienced, and acclimatized worker performing their

typical shift). In agriculture/fisheries and construction, productivity loss due to heat stress fluctuated between 13% and 15%, during the historical period. Under SSP1-2.6 and SSP2-4.5, climate change is expected to further increase productivity loss by 3-5% by 2100, reflecting milder impacts due to climate change mitigation. Under SSP3-7.0 and SSP5-8.5, climate change will lead to increases in productivity loss compared to the average year of the reference historical period, reaching as high as 13% toward the end of the century. Agriculture/Fisheries and construction are thereby particularly vulnerable sectors to productivity loss due to climate change.

In manufacturing, mining and quarrying, services, as well as transportation and trade, productivity loss due to heat stress remained stable at about 5% to 8% during the historical period. Under SSP1-2.6 and SSP2-4.5, climate change is anticipated to further increase productivity loss by 2-3% by the end of the century. This will be higher under SSP3-7.0 and SSP5-8.5, resulting in additional productivity loss of up to 7% in these scenarios by 2100, compared to the average year within the reference period.

Figure 5. Average productivity loss in the Maldives during the reference historical period (1985-2014) and until 2100 across the different SSPs. Vertical axes in each graph show productivity loss in a given year (right hand side axis) and productivity loss due to climate change, calculated as a change from the baseline historical period 1985-2014 (left hand side axis). Shaded areas represent 95% confidence intervals.



The key findings of this analysis are as follows:

- **Vulnerability is unequal:** agriculture/fisheries and construction show the highest productivity losses due to rising heat stress from climate change, reaching as high as 13% by the end of the century in the worst-case scenario. Manufacturing, services, transportation, and trade are also heavily impacted, but at a lesser degree.
- **Scenario divergence:** under more optimistic scenarios (SSP1-2.6, SSP2-4.5), productivity losses remain relatively low across all intensity levels. However, in scenarios where climate action is delayed or absent (SSP3-7.0, SSP5-8.5), losses increase significantly, particularly for high-intensity work.
- **Long-term trends:** regardless of the SSP, productivity losses generally increase towards the latter half of the century, reflecting the long-term effects of climate change on the economy of the Maldives.

Economic and labour market impacts of climate change

Current economic impacts

Economic production relies on the total available work hours, and when those hours diminish due to rising heat stress from climate change, the overall contribution of the workforce to production is reduced.[x,xi,xii] Thus, climate change affects not only individual workers but also has far-reaching implications for national economies. When workers are exposed to higher levels of heat due to climate change, they tend to slow down, take more frequent breaks, or may even be unable to work at all – all of which reduce productivity.[x,xi,xii] This reduction in labour input directly translates into lower economic output, which is reflected in a decrease in GDP.[x,xi,xii]

The economic impacts of rising heat stress due to climate change in the Maldives are significant. The country lost 364 million USD more from heat stress in 2023 compared to the average year during the reference historical period (1985-2014) (Table 2). The added GDP losses in the services as well as the transport and trade sectors far outweigh those from all other sectors, representing 69.3% and 13.8% of the climate change-induced GDP losses, respectively.

Table 2. Change in the contribution of each sector to GDP due to rising workplace heat stress caused by climate change, between 2023 and the reference historical period 1985-2014.

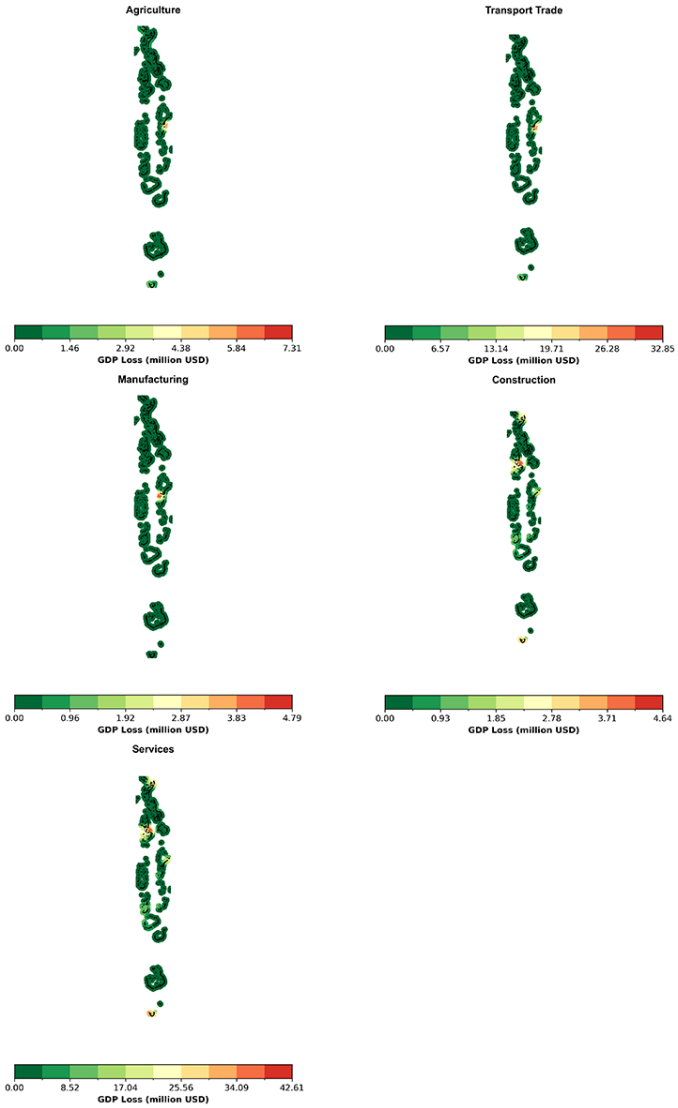
Sector	Change in GDP	
	(million USD) *	*(distribution; %)*
Agriculture	-16.0	4.4
Construction	-27.3	7.5
Manufacturing	-6.4	1.8
Mining and quarrying	-11.7	3.2
Services	-252.6	69.3
Transport and trade	-50.3	13.8
Total GDP change	-364.3	

* million USD (fixed 2015 prices), with negative values indicating a GDP reduction compared to the baseline historical period 1985-2014.

The regional distribution of the impact of rising workplace heat stress due to climate change on each sector of economic activity is illustrated geographically in Fig. 6. The maps indicate that workplace heat stress caused by climate change already imposes a measurable economic burden across all sectors in the Maldives, with a strongly uneven distribution by both sector and location. Losses cluster in and around Greater Malé and in several resort-dense atolls along the central chain and in the far south. Many other islands record small absolute losses because local output is smaller, not because work is safe. Overall, the results clearly show the need to protect workers and firms in Malé, resort hubs and key logistics nodes using WBGT thresholds. To provide shade, ventilation, and reliable hydration. Adjust schedules around the hottest hours and to extend the same basic protections to outer atolls. These steps will reduce current losses and help contain future ones as heat levels rise. The key findings are as follows:

- **Services** carry the largest losses. The strongest impacts are observed in tourism islands and in Malé. Midday heat cuts hours in hospitality, retail, administration and small urban services. "Back-of-house areas" without good ventilation add to the strain. Where guesthouses and resorts are dense, the losses are higher.
- **Transport and trade** rank next. Hotspots align with ports, airports and busy ferry hubs. Heat slows cargo handling, ground operations and inter-island logistics. These delays spill over to supply chains and service delivery.
- **Manufacturing and agriculture/fisheries** have a limited footprint and show localized losses, mainly around fisheries as well as fish processing and light industry near Malé and in a few southern atolls. Heat in enclosed spaces reduces throughput. Outdoor work in farming and fisheries as well as and post-harvest handling is exposed.

Figure 6. GDP loss across the Maldives due to rising workplace heat stress caused by climate change, between 2023 and the baseline historical period 1985-2014, in each sector of economic activity.



Current labour market impacts

The impact of rising heat stress from climate change on the Maldives' labour market is significant (Table 3), with varying degrees of productivity and jobs lost across all key economic sectors:

- **Nearly 1,700 more full-time jobs were lost** due to workplace heat stress during 2023 compared to the average year during the historical period.
- Overall, **35% of the jobs are lost** during the 2nd quarter, reflecting the parts of the year with peak heat levels, affecting major industrial nodes, including Malé and the surrounding region (Fig.2).
- Climate change impacts are industry-specific. The full-time jobs lost were:
  - **57% in services**
  - **22% in construction**
  - **10% in manufacturing**
  - **7.5% in agriculture/fisheries**
  - **4% in transport and trade.**
- These results highlight the urgent need for adaptive policies, such as regulated work-rest cycles, access to cooling measures, and integration of heat mitigation into occupational safety standards, to safeguard worker productivity and health in the Maldives.

Table 3. Annual impact of rising heat stress due to climate change on full-time equivalent jobs lost (proxied from work hours lost) in each sector of economic activity and across the entire economy in the Maldives, calculated as the change between 2023 and the reference historical period 1985-2014.

Sector	Available Work Hours	Change in Work Hours		Change in Jobs
	(n)	(n)	(% FTE)	(FTE)
Agriculture/ Fisheries	13,723,097	-249,150	-1.82	-124
Construction	42,894,206	-720,117	-1.68	-359
Manufacturing	36,768,754	-339,488	-0.92	-169
Services	216,687,343	-1,893,490	-0.87	-944
Transport and trade	14,208,480	-133,420	-0.94	-67
TOTAL	324,281,880	-3,335,664	-1.03	-1,663

n: number; FTE: full-time equivalent.

Future economic and labour market impacts

The Maldives' macro-economic exposure to rising workplace heat stress is set to intensify between 2040 and 2060, with outcomes highly sensitive to global emissions scenarios (Table 4). Even on a Paris-aligned trajectory (SSP1-2.6), heat-related productivity losses will reduce GDP by about 7.7% and 9.2% more in 2040 and 2060, respectively, relative to the losses during the average year within the 1985-2014 baseline. This is equal to an annual loss of 575.5 million USD in 2040 and 1.5 billion USD in 2060. A regional-rivalry world (SSP3-7.0) will increase the burden to 10.1% by 2060 (1.6 billion USD). Should fossil-fuel development continue unabated (SSP5-8.5), rising workplace heat stress could cut 10.5% (1.7 billion USD) off annual GDP by 2060, eliminating the cumulative GDP value of several medium-sized manufacturing subsectors.

The sectoral pattern is uneven but consistent across pathways. Services, the backbone of the economy, bears most losses: 5.4% (403 million USD) more losses in 2040 under SSP1-2.6 compared to the historical period, rising to 7.3% (1.2 billion USD) in 2060 under SSP5-8.5. Fisheries and agriculture will record higher losses compared to the average year within the historical period, rising from 25.6 million USD (SSP1-2.6, 2040) to 97.6 million USD (SSP5-8.5, 2060). Construction will experience steady climate change impacts ranging from 43.7 million USD in 2040 to 133.2 million USD in 2060.

The projected productivity losses attributable to climate-induced heat stress grow markedly with the global emissions trajectory and are already substantial for the Maldives by 2040. Model results indicate that, relative to the 1985-2014 baseline, the economy will lose the equivalent of 2,400 full-time jobs under a low-emissions pathway (SSP1-2.6). The losses rise to nearly 3,000 full-time jobs under SSP2-4.5 and reach 3,400-3,600 under the high-emissions scenarios (SSP3-7.0 and SSP5-8.5). In proportional terms this represents a 1.8% contraction in total labour force under the most optimistic scenario and 2.5% under unabated fossil-fuel development.

By 2060, climate-driven heat stress will remove the equivalent of 5,600-6,100 FTE jobs from the Maldives' economy each year, depending on the global emissions pathway. Model results show that under the Paris-consistent trajectory (SSP1-2.6) the Maldives will lose more than 3,000 FTEs, or about 2.4% of total labour force. The toll rises sharply to 5,000 FTEs under SSP2-4.5, 6,100 under SSP3-7.0, and over 5,500 under SSP5-8.5, where heat cuts

4.2% more aggregate work hours compared to the average year within the historical period.

Table 4. Annual impact of rising workplace heat stress caused by climate change on GDP in the Maldives during 2040 and 2060 across different SSPs, compared to the historical period 1985-2014.

	Change in GDP			
	2040		2060	
	*(M USD)**	*(%)*	*(M USD)**	*(%)*
SSP1-2.6	-575.5	-7.72	-1,457.5	-9.17
SSP2-4.5	-589.6	-7.91	-1,573.6	-9.90
SSP3-7.0	-607.5	-8.15	-1,610.2	-10.13
SSP5-8.5	-614.1	-8.24	-1,673.4	-10.53

*million USD (fixed 2015 prices), with negative values indicating a GDP reduction compared to the baseline historical period 1985-2014.
SSP: shared socioeconomic pathway.

Table 5. Annual impact of rising heat stress during 2040 and 2060 due to climate change on full-time equivalent jobs lost across different SSPs, calculated as the change from the historical period 1985-2014.

Scenario	Period	Change in Work Hours (n)	Change in Work Hours (% FTE)	Change in Jobs (FTE)
SSP1-2.6	2040	-4,817,602	-1.82	-2,402
	2060	-6,290,775	-2.37	-3,136
SSP2-4.5	2040	-5,970,209	-2.25	-2,976
	2060	-10,016,154	-3.78	-4,993
SSP3-7.0	2040	-7,295,548	-2.75	-3,637
	2060	-12,228,210	-4.61	-6,096
SSP5-8.5	2040	-6,734,296	-2.54	-3,357
	2060	-11,167,358	-4.21	-5,567

SSP: shared socioeconomic pathway; n: number; FTE: full-time equivalent.

Key recommendations per sector

Rising heat stress is already undermining worker health, productivity, and overall economic resilience in the Maldives. In light of the evidence presented in this analysis, it is imperative to adopt sector-specific adaptation strategies that not only protect workers but also support continued economic activity. The following recommendations outline targeted measures for each key economic sector, integrating the sector-specific vulnerabilities in this analysis with practical, evidence-based adaptation strategies, ensuring that policy-makers and stakeholders have clear guidance on protecting workers and supporting economic stability in the face of rising workplace heat stress. Importantly, these recommendations should be applied in addition to – not in place of – the general occupational safety and health protection framework for heat stress recommended by the ILO.[xiii] A comprehensive list of recommendations is available in the main text of the country study.

Agriculture: In agriculture, where the majority of work is performed outdoors and workers are directly exposed to the sun and natural environment, adaptation strategies must focus on minimizing heat exposure. Adjusting work schedules to avoid the hottest parts of the day is essential, alongside implementing on-site measures such as the installation of shade structures, provision of adequate hydration, and cooling stations. Additionally, adapting crop management practices by shifting planting cycles and choosing heat-tolerant crop varieties can reduce the vulnerability of agricultural production to extreme heat. Worker training on recognizing the signs of heat stress and on implementing first-aid measures further enhances resilience in this critical sector.

Construction: Construction work is characterized by intense physical labour and significant exposure to outdoor heat. To protect construction workers, employers should consider rescheduling work to cooler periods, such as early mornings or late afternoons, and enforcing regular, scheduled breaks during the day. The deployment of portable shading, misting systems, and on-site hydration stations is critical to reducing heat exposure. Engineering controls, such as using reflective materials or temporary insulation, can further mitigate the thermal load on construction sites. In addition, worker acclimatization programs and ongoing risk assessments are vital to ensure that adaptation measures remain effective as environmental conditions evolve.

Manufacturing: Manufacturing facilities, whether operating indoors or in partially exposed environments, must address both process-generated and environmental heat. Enhancing indoor climate control through improved ventilation and energy-efficient air conditioning systems is a key priority. Implementing structured work-rest cycles and staggered shifts can help manage cumulative heat exposure. In addition, installing real-time monitoring systems to track WBGT levels enables a proactive response to emerging heat stress risks. Employee education and training on the importance of hydration and heat stress

symptom recognition can further support a healthier and more productive workforce.

Mining and quarrying: For mining and quarrying operations, which often occur in environments with high ambient temperatures or in confined underground spaces, robust environmental controls are crucial. Recommendations include upgrading ventilation and cooling systems to maintain safer working conditions, as well as scheduling operations to reduce exposure during peak heat periods. Establishing mandatory rest breaks with access to cooled rest areas can help mitigate the physiological strain experienced by workers. Regular monitoring of WBGT, paired with comprehensive risk assessments, will ensure that protective measures are effectively tailored to fluctuating conditions. Where feasible, increased mechanization may reduce the need for direct human exposure to hazardous thermal conditions.

Services: Although the formal services sector is predominantly indoor, many subsectors (including retail, hospitality, and tourism) and the large informal street vendors are vulnerable to environmental and work-related heat stress. Especially in facilities with inadequate climate control or in areas where outdoor work is required heat stress reduces productivity. Employers should consider fitting workplaces with efficient cooling and ventilation systems, to ensure that indoor temperatures remain within safe limits during heat waves. Social protection programs for informal service sector jobs, notably street vendors, small outdoor shops, and hawkers, are required to allow workers to shift work hours, protect lost income, and potentially search for less exposed job opportunities. Flexible scheduling and remote work options can also help mitigate risks for employees, particularly those performing heat-vulnerable jobs/tasks. In addition, service providers are encouraged to develop contingency plans and to conduct regular training and awareness campaigns about the risks of workplace heat stress. Such measures not only protect worker health but also support uninterrupted service delivery during periods of extreme heat.

Transportation and trade: The transportation and trade sector, which encompasses both outdoor activities and logistics operations, faces unique challenges from heat stress. It is recommended that work schedules be modified to avoid extreme heat, with the establishment of climate-controlled rest areas and loading docks. Equipping drivers and logistics personnel with cooling equipment and appropriate personal protective gear is essential. Moreover, infrastructural improvements, such as installing shading and misting systems at key transport hubs, can reduce heat exposure and maintain the efficiency of supply chains. These measures are critical to ensuring that the sector's operational continuity is not compromised by rising heat levels.

Collectively, the above recommendations provide a framework for tailoring climate adaptation measures to the unique challenges and opportunities within each economic sector. By implementing these strategies, the Maldives can protect its workforce, sustain productivity, and enhance the resilience of its economy in the face of a warming climate.

This factsheet is based on a study (Impacts of heat stress on jobs and productivity in the Maldives: Quantitative and qualitative employment estimates for evidence-based decision-making) commissioned by the ILO with support from the Climate Vulnerable Forum and the Vulnerable 20 Finance Ministers (CVF–V20), and with funding provided through the CVF–V20 Joint Multi-Donor Fund.

The study is authored by Andreas D. Flouris, Leonidas G. Ioannou and Konstantinos Mantzios.

Copyright © International Labour Organization 2026

Contact details
International Labour Organization
Route des Morillons 4
CH-1211 Geneva 22
Switzerland

E: justtransition@ilo.org

[i] World Bank (2024). Maldives Country Climate and Development Report. The World Bank Group, Washington, DC, USA.
[ii] World Bank Group. 2023. Maldives Country Partnership Framework.
[iii] International Labour Organization (2019). The ILO in Maldives - Key Facts and Figures. ILO Country Office for Sri Lanka and the Maldives.
[iv] The map was made using http://www.maps-for-free.com
[v] WBGT is an important measure of heat stress, considering not only temperature but also humidity, wind speed, and solar radiation, which makes it particularly useful in assessing the risk of heat stress for working people.
[vi] IPCC (2021). Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. V. Masson-Delmotte, P. Zhai, A. Pirani et al. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, Intergovernmental Panel on Climate Change.
[vii] Poulianiti K.P., Havenith G., Flouris A.D. (2019). Metabolic energy cost of workers in agriculture, construction, manufacturing, tourism, and transportation industries. Industrial Health; 57(3): 283-305.
[viii] Flouris A.D. (2019). Human thermoregulation. in: Périard J., Racinais S., eds. Heat stress in sport and exercise: Springer.
[ix] Flouris A.D., Dinas P.C., Ioannou L.G., Nybo L., Havenith G., Kenny G.P., Kjellstrom T. (2018). Workers' health and productivity under occupational heat strain: a systematic review and meta-analysis. Lancet Planetary Health; 2(12): e521-e531.
[x] Ioannou L.G., Tsoutsoubi L., Samoutis G., Bogataj L.K., Kenny G.P., Nybo L., Kjellstrom T., Flouris A.D. (2017). Time-motion analysis as a novel approach for evaluating the impact of environmental heat exposure on labor loss in agriculture workers. Temperature; 4(3): 330-340.
[xi] Flouris A.D., Ioannou L.D., Dinas P.C., et al. (2019). Assessment of occupational heat strain and mitigation strategies in Qatar – Key Findings. International Labour Organization, United Nations: Doha, Qatar.
[xii] Ioannou L.G., Tsoutsoubi L., Mantzios K., et al. (2025). The impact of workplace heat and cold on work time loss. Journal of Occupational and Environmental Medicine; doi: 10.1097/JOM.0000000000003332.
[xiii] ILO (2024). Heat at work: Implications for safety and health. A global review of the science, policy and practice. A. D. Flouris, M. Azzi, H. Graczyk, B. Nafradi and N. Scott. Geneva, Switzerland, International Labour Organization.