

# Working on a warmer planet: findings from ILO's global report on occupational heat stress

Catherine Saget  
Chief  
Work Income and Equity unit  
RESEARCH Department  
International Labour Organization (ILO)  
[saget@ilo.org](mailto:saget@ilo.org)

Date: Tuesday 9 May 2023



# Part I. Why is heat stress a world of work issue? <sup>2</sup>

## What factors influence the level of heat stress?

### Environmental factors:

- Temperature
- Humidity
- Sun radiation
- Wind

### Work-related factors:

- Intensity of physical effort
- Protection clothing and equipment

### Individual factors:

- Age
- Medical conditions such as obesity
- Pregnancy
- Acclimatization

***Objective: Calculate the number of hours of work lost due to heat stress***

### ***Years covered***

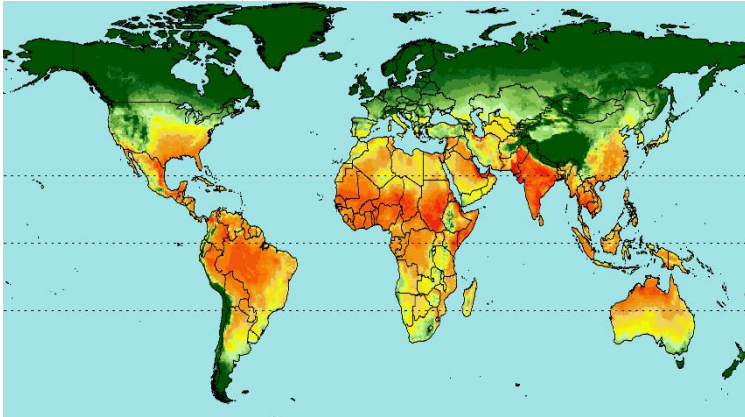
- *1995 and 2030*

### ***Sectors of the economy covered:***

- *Services*
- *Industry*
- *Agriculture*
- *Construction*

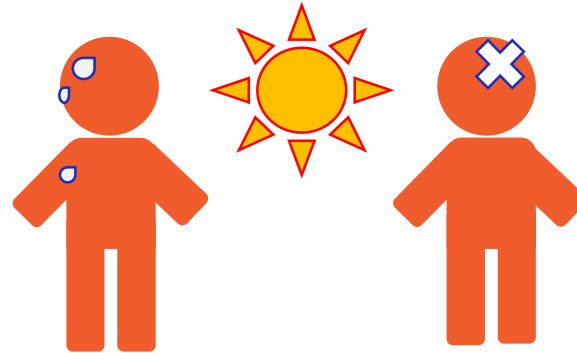
### ***Geographical zone covered:***

- *World, regions and countries*



### Detailed data on temperature :

- *By small geographical zones (50km x 50km)*
- *1980-2099*
- *Scenario of 1,5°C increase in temperature (corresponding to climate policies as per the Paris agreement)*



### Detailed data on the capacity of the body to respond to heat stress :

- Loss of productivity according to heat level and intensity of physical work (low, medium or high)

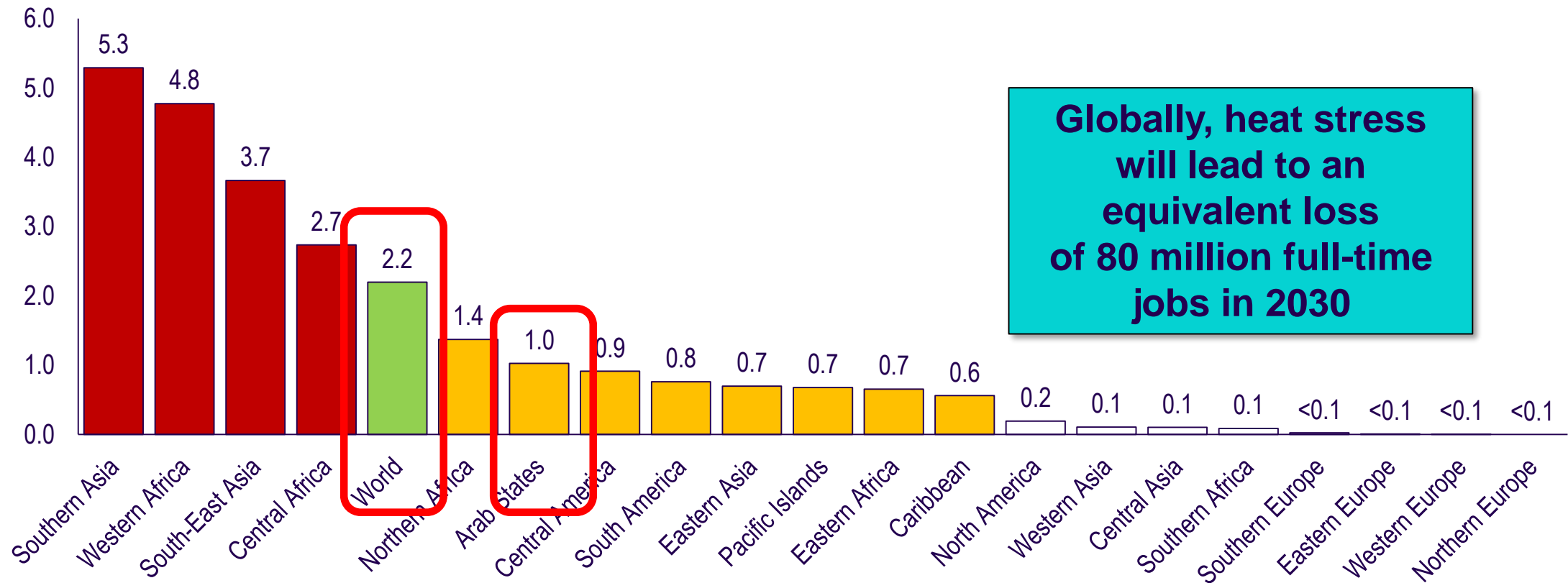


### Detailed data on the labour market :

- Population data by small geographical zone 50kmx50 km and ILOSTAT data on employment to population ratio at national and regional level. .
- Physical intensity of work by sector in agriculture and construction (high), industry (medium), services (low).

# Part III. Results on the impact of heat stress on labour productivity by region

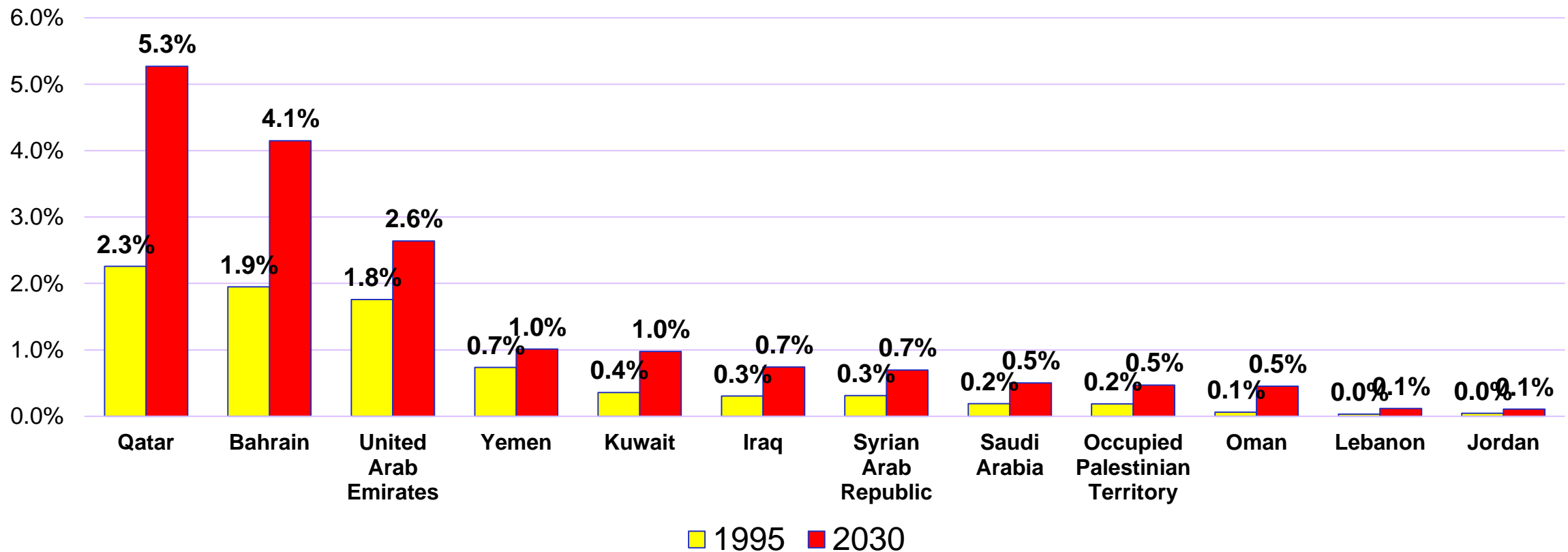
## Percentage of working hours lost due to heat stress under a 1.5°C scenario, 2030



Source: ILO (2019) “Working on a warmer planet: The effect of heat stress on productivity and decent work”. Estimates based on ILOSTAT and the HadGEM2 and GFDL-ESM2M climate models (RCP2.6 climate change pathway, which envisages a global average temperature rise of 1.5°C by the end of the century).

# Part III. Results: Impact of heat stress on labour productivity by country in the Arab region

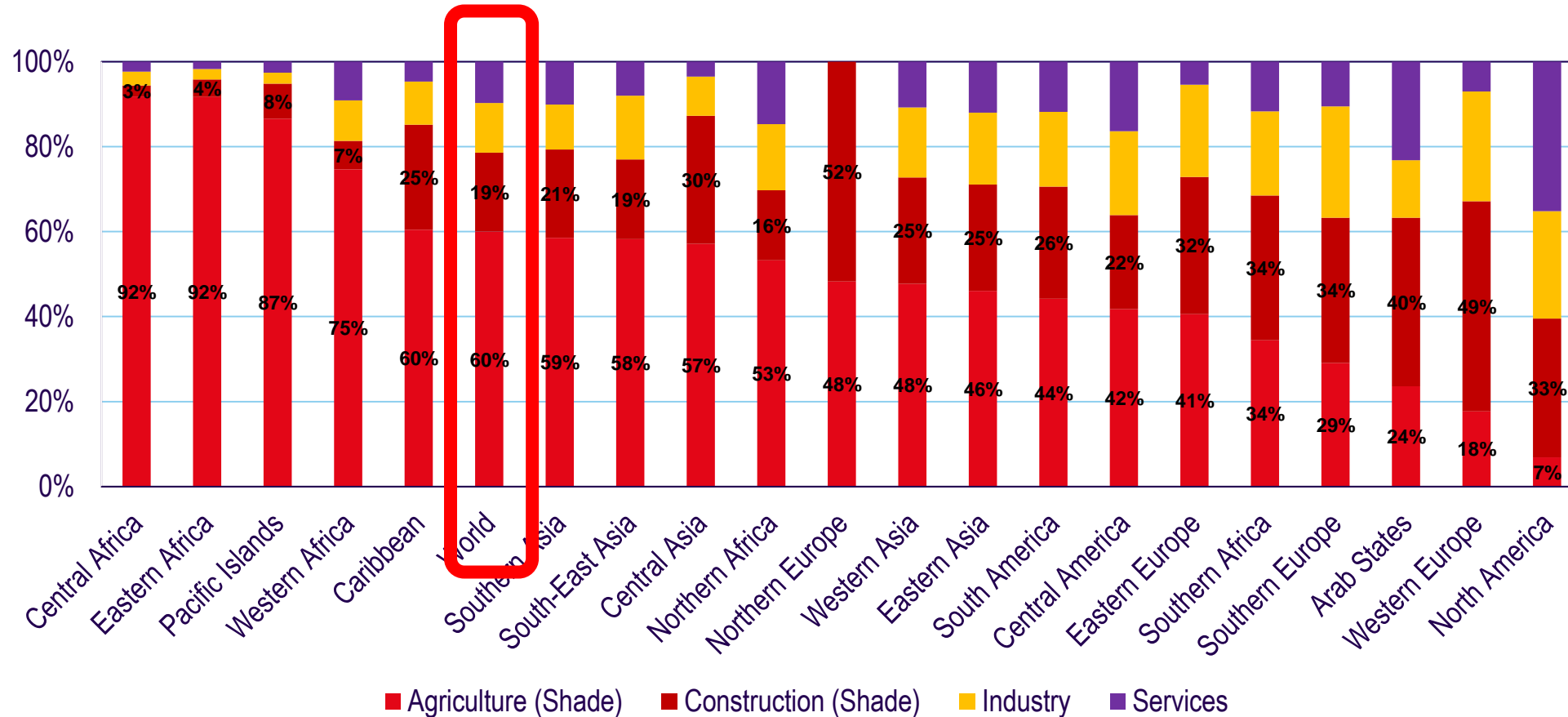
Percentage of working hours lost due to heat stress, 10 most affected countries in Arab States, 1995 and 2030 (projections)



Source: ILO (2019) “Working on a warmer planet: The effect of heat stress on productivity and decent work”. Estimates based on ILOSTAT and the HadGEM2 and GFDL-ESM2M climate models (RCP2.6 climate change pathway, which envisages a global average temperature rise of 1.5°C by the end of the century).

# Part III. Results: Agricultural and construction workers are the worst affected

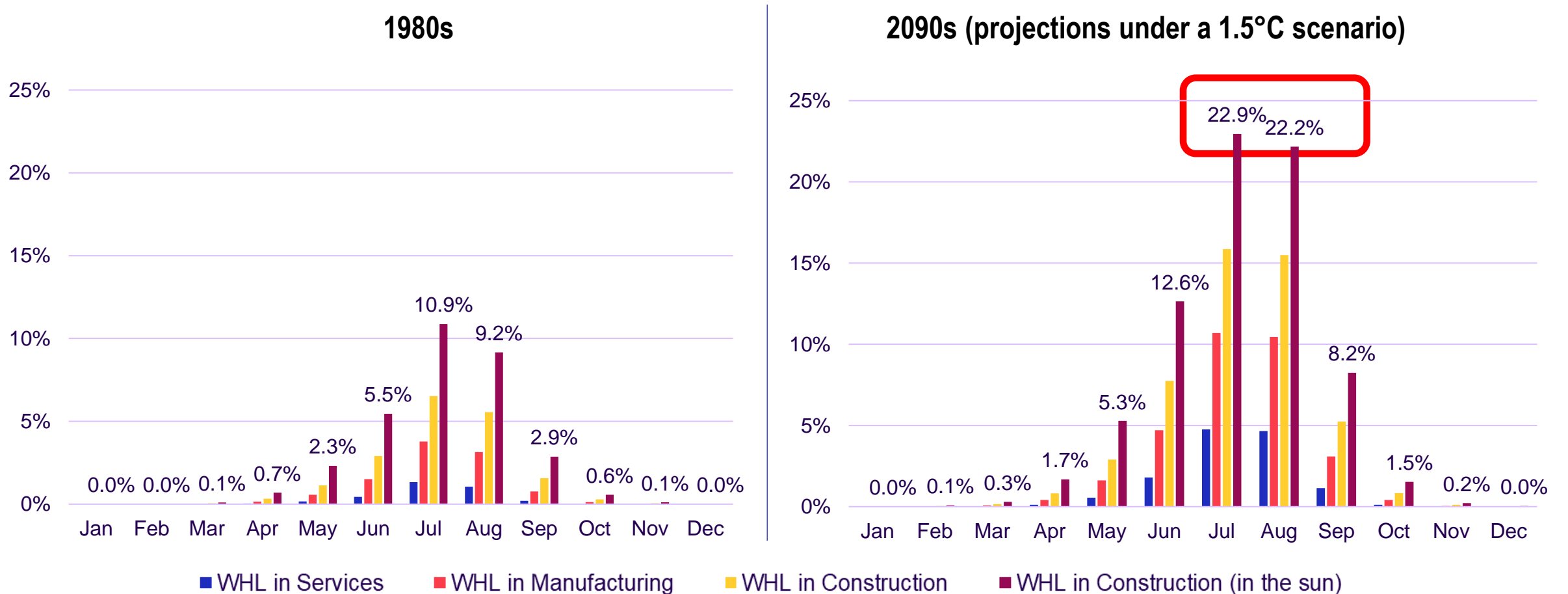
## Working hours lost to heat stress by sector, projections for 2030



Agricultural and construction workers will account for 60 per cent and 19 per cent of the lost in 2030

# Part III. Preliminary results: The impact of heat stress on labour productivity in China by month

## Percentage of working hours lost (WHL) due to heat stress in China, by month



Source: ILO Preliminary results. Please do not quote.



## Part III. Results: Adaptation policies and actions to protect workers are needed

- Governments must work together with workers' and employers' organizations, through social dialogue, in designing, implementing and monitoring adaptation policies
  - Governments play an important role in providing information to workers and employers on heat levels, risks associated to high temperature, measures to be taken, and creating an appropriate regulatory framework that protect workers health and safety
  - Workers and employers are best placed to implement adaptation measures and to take appropriate action at the workplace
  - Social dialogue is crucial in the development of national policies, including policies on occupational safety and health and in reaching consensus on working methods, adapted working hours, dress codes and equipment
- **In the long term, climate change mitigation is indispensable if occupational heat stress is to be prevented**



## The take-aways

- Heat stress is increasing. Groups of workers with already more difficult working conditions are more affected. Countries with gaps in social protection are more affected.
- Prevention measures can be considered even in poor countries. They usually require the participation of employers, workers and governments.
- In terms of compensation for workers, in the event of heat stress, access to health services has been increasing globally, as well as, to a smaller extent, access to employment injury insurance.



► For further information:  
[saget@ilo.org](mailto:saget@ilo.org)

