



World Food Programme

SAVING  
LIVES  
CHANGING  
LIVES

# Food systems and the climate crisis

Friday, December 3, 2021

# The Climate crisis is a major threat to food systems



- Climate change is a **risk multiplier** and a key driver of **food insecurity**
- **80% of food insecure people** live in fragile environments prone to natural hazards, with limited resources to cope and adapt to gradual and irreversible changes in climate
- **Global food systems** are unsustainable, vulnerable to shocks, and fail to equitably ensure food security and access to nutritious food for all. Climate change will exacerbate this...
- As the **climate changes** we can expect more frequent and severe **extreme weather events**, increased weather **variability** and emergence of **new risks** – a new **Riskscape** is emerging
- **Gradual changes** - rising temperatures, sea level rise, soil salinization, water scarcity, ocean warming are increasingly impacting our ability to grow food

# Climate Impacts on Food Security Pillars

## Availability

Impact on crop production and livestock systems, negative effects of rising temperatures on soil moisture; the destruction of crops by floods, drought, or other extreme weather events; and reduced crop yields due to rainfall variability, as well as pests and diseases, impacts on livestock and fisheries,

## Access

Reduced income levels of farmers, spikes in food prices, destruction of trade and transport systems, and damage to shops and other basic infrastructure.

## Stability

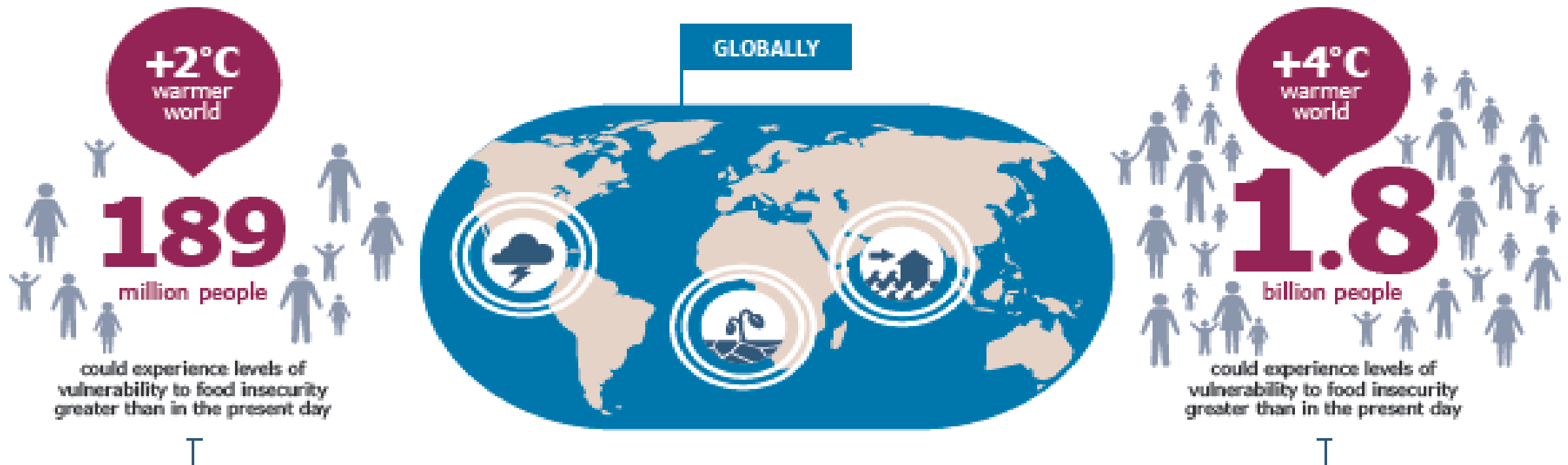
Increased variability in the food supply, instability of incomes and food prices over long periods, as well as increased outmigration and civil unrest due to crop failures.

## Utilization

Increased risk to food safety, declined nutritional quality of foods due to increased CO<sub>2</sub> levels in the atmosphere, water availability and contamination and hygiene increased risk of diseases.

# What a 2°C and 4°C warmer world could mean for global food insecurity

BASED ON RESEARCH ON EXTREME CLIMATE PROJECTIONS FOR FOOD SECURITY



The present day values are a baseline from which to compare how action to address greenhouse gas emissions and to adapt to climate change, could affect the scale and geography of future vulnerability to food security, relative to today.

## Future Scenarios

Emissions



Adaptation



## Key

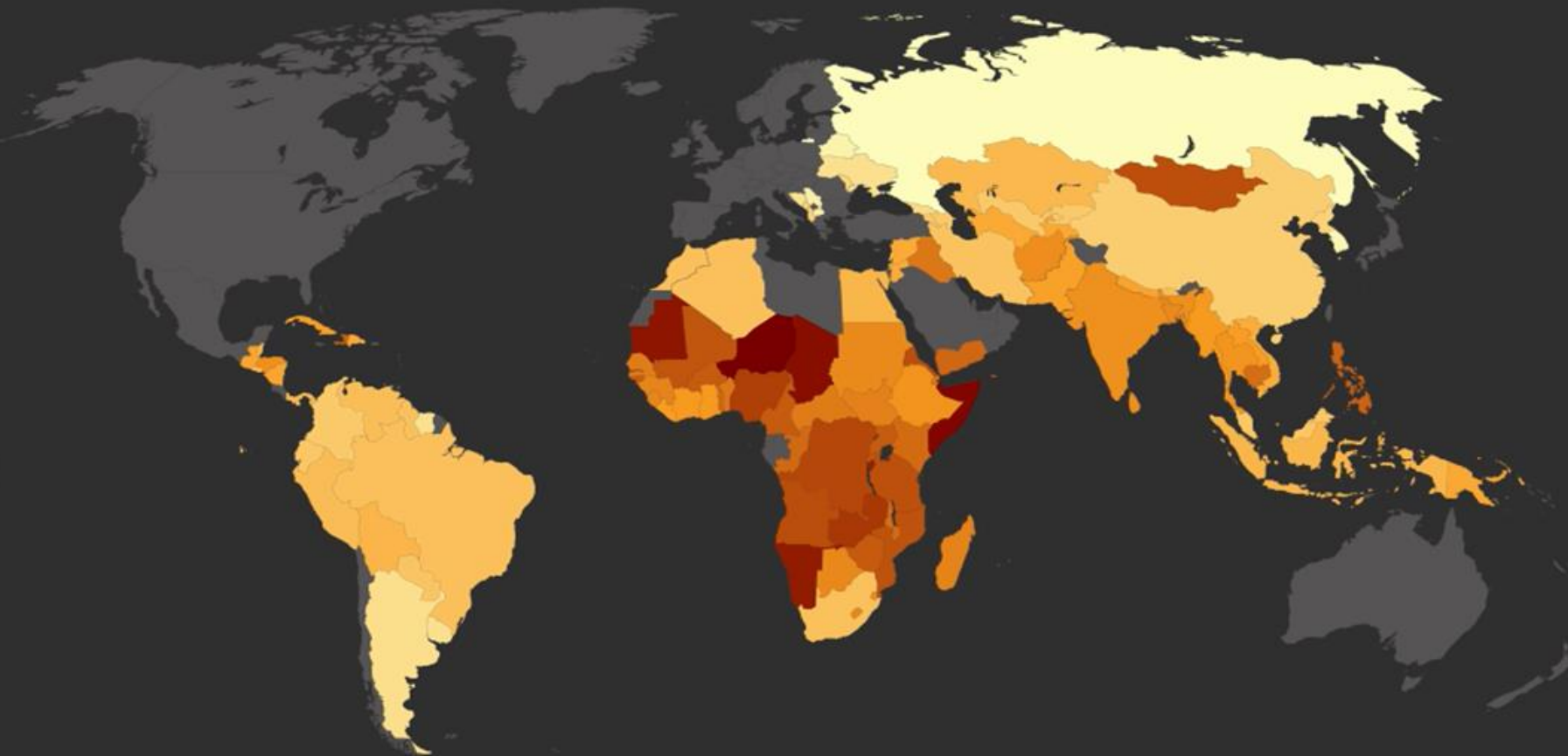
Hunger and climate vulnerability index



LOW

HIGH

**PRESENT DAY**



# Food Insecurity & Climate Change

## Future Scenarios

Emissions

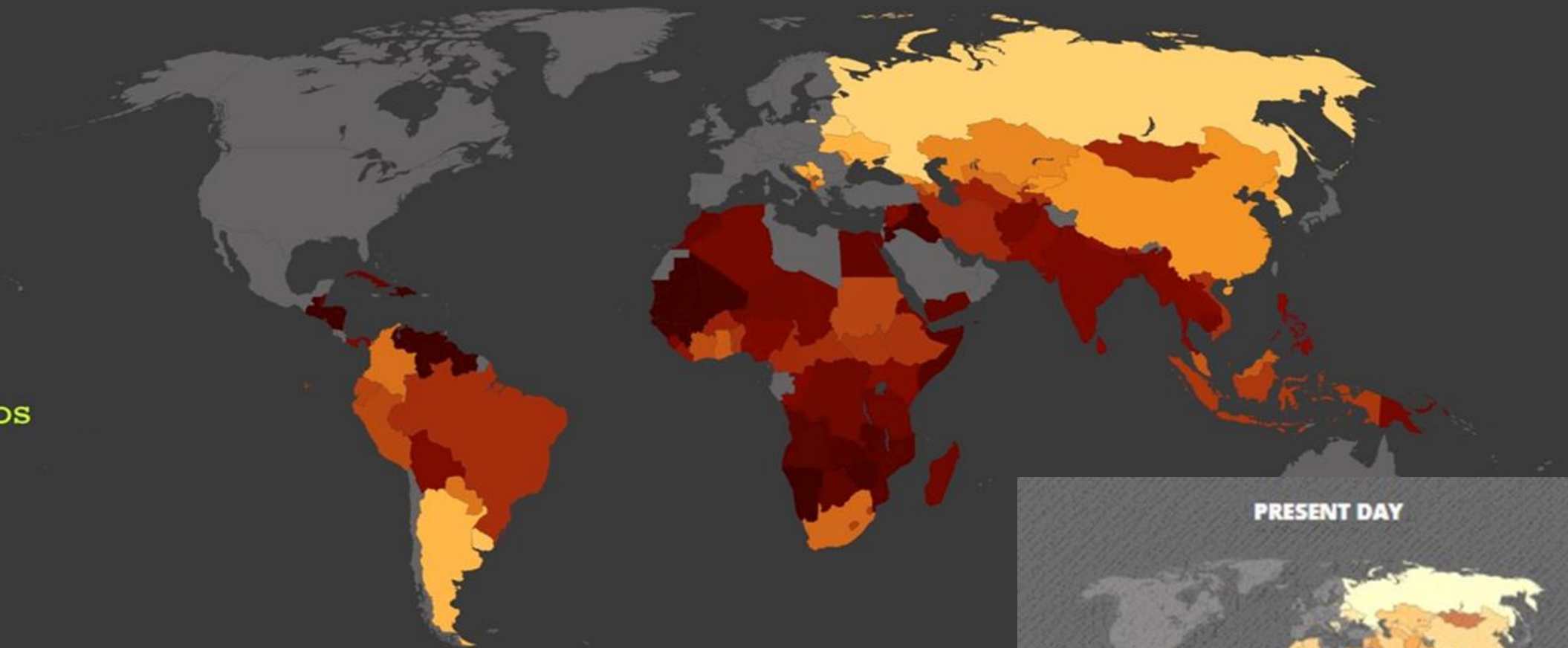
 HIGH

Adaptation

 NONE

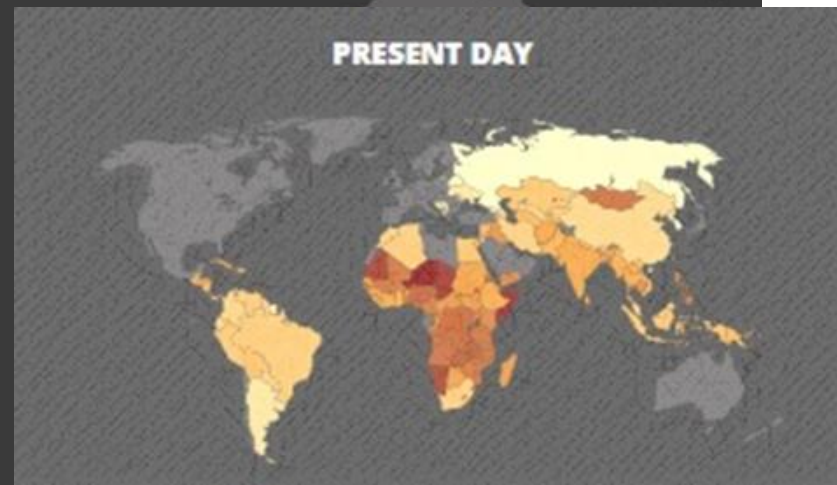
## Key

Vulnerability to food insecurity



2080s

PRESENT DAY



# Few thoughts...

- Food systems can aggravate the impacts from global warming, or reduce them - climate action can result in more sustainable, equitable and resilient food systems
- Food systems transformation is key for climate action and vice versa – there is no ‘business as usual’ option
- A new Riskscape where we are dealing with systemic and cascading risks that exacerbate existing challenges within food systems – it’s complex
- A better understanding of impacts of climate change on different drivers of risk and vulnerability and on FS is key – across timeframes
- We need a comprehensive and inclusive approach to transform food systems and ensure resilience to different hazards/stresses, tackle inefficiencies and inequalities while boosting sustainable local production
- Partnerships are key to transform food systems & ensure capacities for anticipation, prevention, early action and long term resilience...