

A wide-angle photograph of a mountain range. The foreground shows a snow-covered slope leading up to a series of sharp, jagged mountain peaks. The sky is a clear, pale blue, suggesting a bright day. The overall scene is serene and majestic.

May 12th, 2025

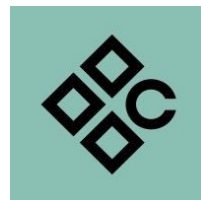
# Climate risk management: Resilience and Adaptation

# SPEAKERS



**Arjan VOS**

Enterprise Risk Management  
Cofra Holding



**Théophile BELLOUARD**

Vice-President Altitude  
AXA Climate



# AGENDA

- INTRODUCTION – 5'
- HOW CLIMATE CHANGE IS IMPACTING COMPANIES – 10'
- STARTING A CLIMATE ADAPTATION JOURNEY BY MEASURING RISKS – 10'
- TAKING ADAPTATION ACTIONS – 10'
- CONCLUSION – 5'

# INTRODUCTION

5 minutes

# Climate change is already a reality



## Goal of the Paris Agreement

Stay **below a +1.5°C** increase, of global average temperature, compared to pre-industrial era

**According to you, what level of global warming have been reached in 2024?**

**A.**

+ 0,9°C

**B.**

+ 1,2°C

**C.**

+ 1,5°C

# Climate change is already a reality



## Goal of the Paris Agreement

Stay below 1.5°C increase,  
of global average temperature,  
compared to pre-industrial era

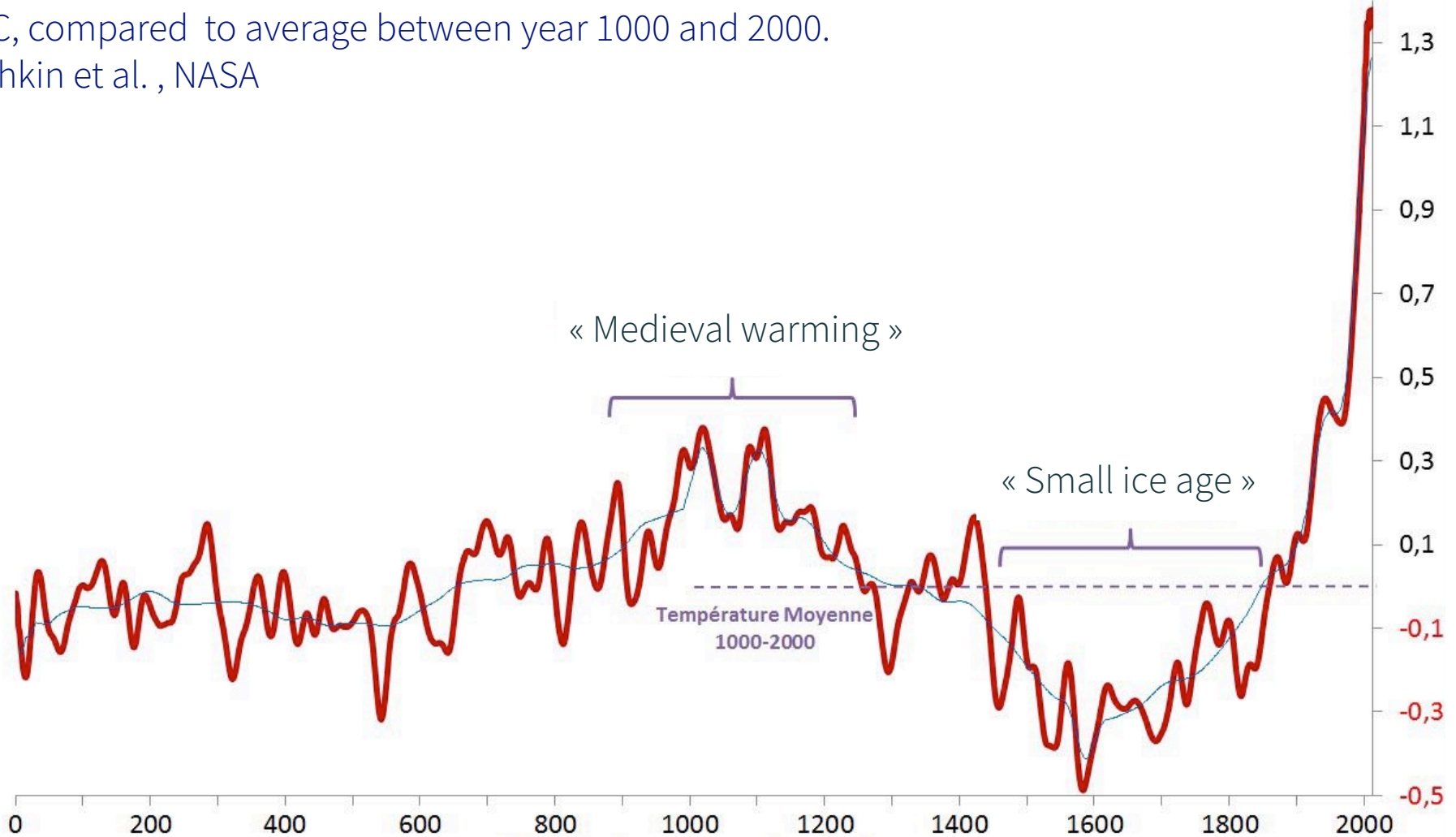
In 2024, we are at +1.5°C already.

Actually, over the last 10 years,  
global warming reached +1.2°C.

# Evolution of Northern hemisphere temperature Over the last 2000 years



Difference in °C, compared to average between year 1000 and 2000.  
Source: Sonechkin et al. , NASA

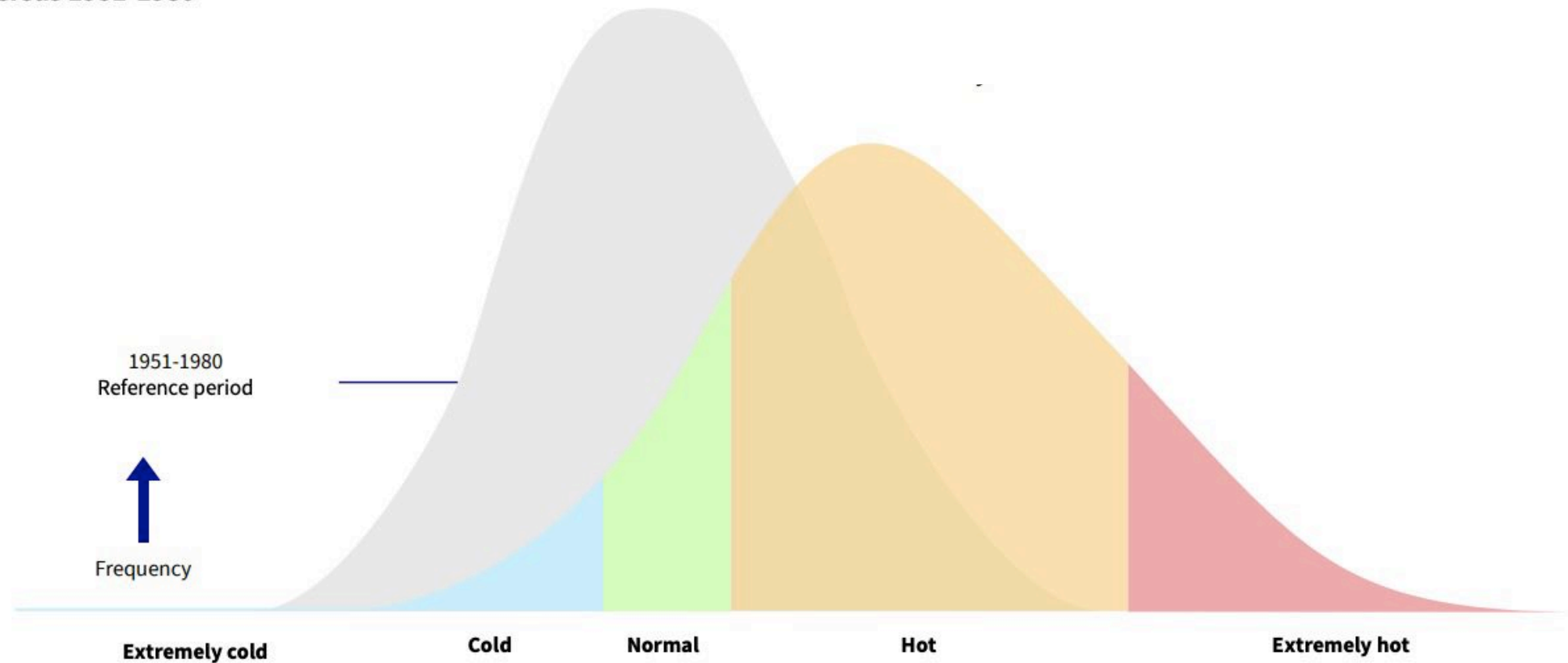


# Global warming is causing temperatures to shift, with more days considered « very hot »

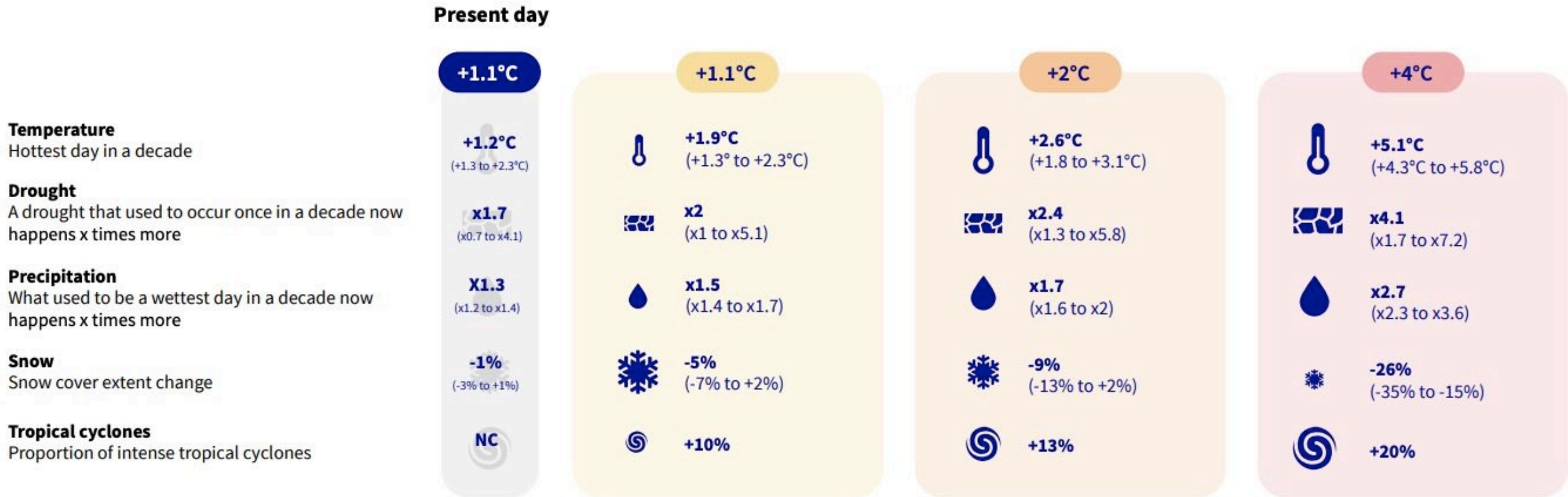


## Summer temperatures in the Northern Hemisphere

2005-2015 versus 1951-1980



# A « few » degree hotter: preview of the consequences on the climate



# Tackling Climate Change



**Mitigation** concerns efforts to limit global warming, notably by reducing greenhouse gas emissions. Mitigation thus means acting on the causes of climate change.

“Avoid the unmanageable”



**Adaptation** covers efforts to adjust to the current or expected climate and its consequences (IPCC). It involves both mitigating harmful effects and exploiting beneficial ones. Adaptation thus means acting on the consequences, the tangible impacts of climate change, or physical risks.

“Manage the unavoidable”

Part 1

# HOW CLIMATE CHANGE IS IMPACTING COMPANIES

10 minutes

**Raise your hand if you think that  
climate change is a major challenge for  
the longevity of your company**

# Climate change impacts companies over their whole value chain - Example of Electronics sector



## Supply

### **Droughts and water shortages**

- Impact on supplies of rare earths (essential components of semiconductors, the extraction of which requires processes that consume water)

### **Extreme weather events (floods, storms, etc.)**

- Damage to the production, facilities and transport infrastructure of essential suppliers

## Production

### **Water shortages resulting from droughts**

- Interruption of the semiconductor manufacturing process dependent on water availability

### **Heatwaves**

- Rationing of electricity to cope with demand may lead to business interruptions in semiconductor factories

### **Extreme events**

- Damage to factories, disruption of production processes, delays to project schedules and additional costs to remedy damage

## Market

### **Impacts on the supply chain**

- Shortages or delays in semiconductor production
- Disruption to the delivery of products, including smartphones, automobiles, and renewable energy systems, with repercussions for diverse sectors and markets

# Climate change impacts companies over their whole value chain - Example of Transport & Logistic sector



## Supply

### Increasingly intense rainfall

- Flooding of access roads and railroads that link ports, bringing about the disruption of port operations and the supply chain

### Reduced water levels in navigable rivers and streams

- Diminished goods transfers by inland waterways

### Very high or very cold temperatures with snowfall

- Reduced train speeds, leading to delays on the rail network

## Production

### Increasingly rainfall intensity and rising sea levels

- Threats to infrastructure and port facilities from surface and coastal flooding, potentially leading to business interruptions

### Extreme heat

- Threat to port cooling, refrigeration and freezing systems, spurring energy consumption and the associated costs

## Market

### Severe storms

- Crews and merchant ships at risk, increased risk of vessel loss or breakdown
- Increased fuel consumption and delivery times due to detours

### Heavy precipitations / water depth variations

- Sedimentation problems
- Disruption of boat access to river ports

# Climate physical risks cause economic & financial impacts on societies and businesses



The impacts of climate change have economic and financial consequences for organizations:

- **On operating expenses (OPEX):** increased cost of raw materials, increased cost of insurance, alongside reduced insurability of certain assets, etc.
- **On capital expenses (CAPEX):** cost of repairing equipment or buildings, cost of adaptation etc.
- **On revenues:** operating losses following extreme events (store closures, etc.), reduced productivity due to heatwaves, lower agricultural yields, etc.
- **On the value of assets:** buildings damaged by clay shrinkage and swelling, landslides or flooding, etc.



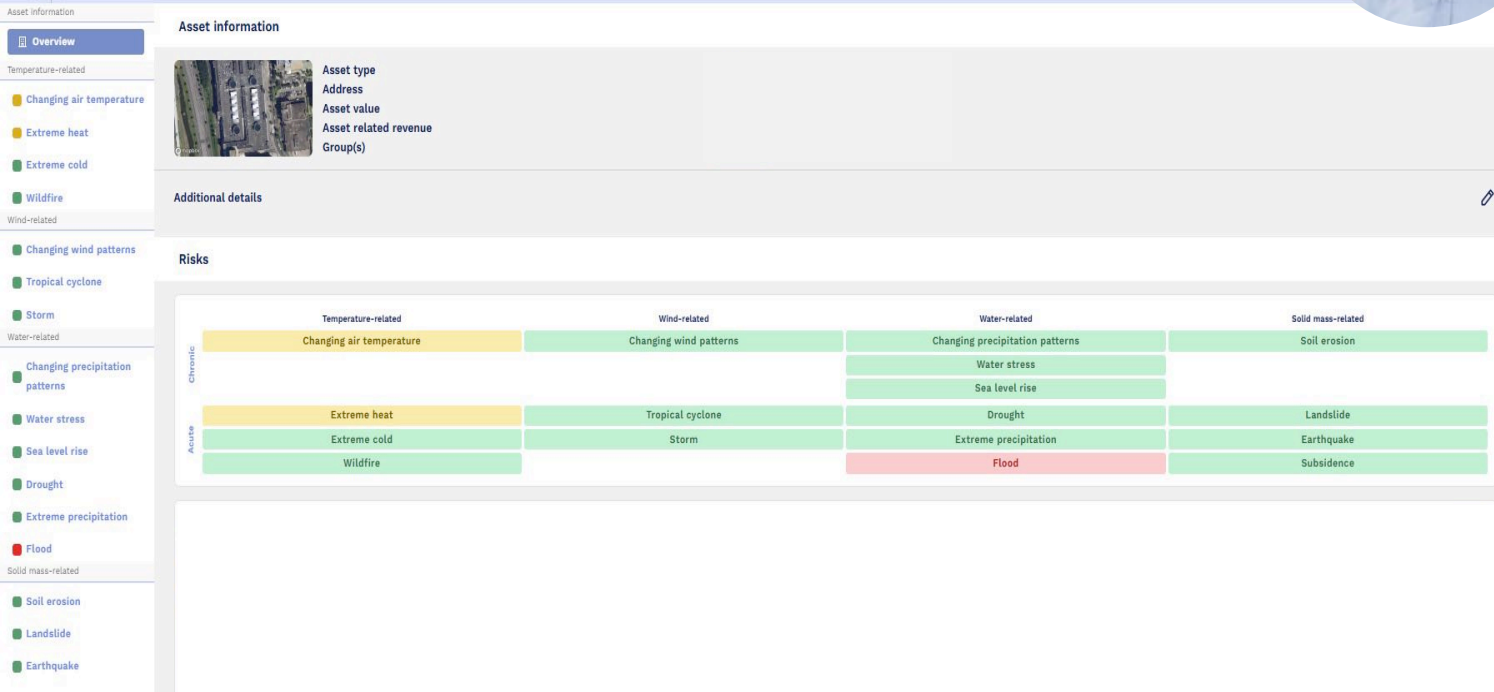
Photo by Mike Newbry on Unsplash

# AXA helps screening climate related risks

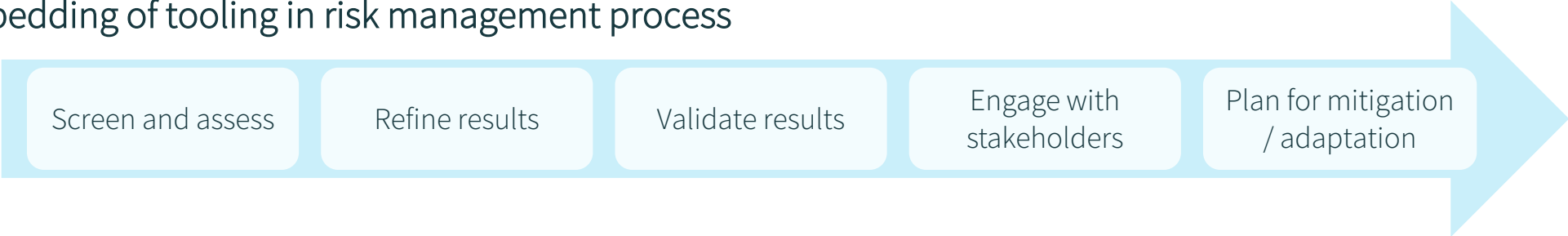


## High level insights

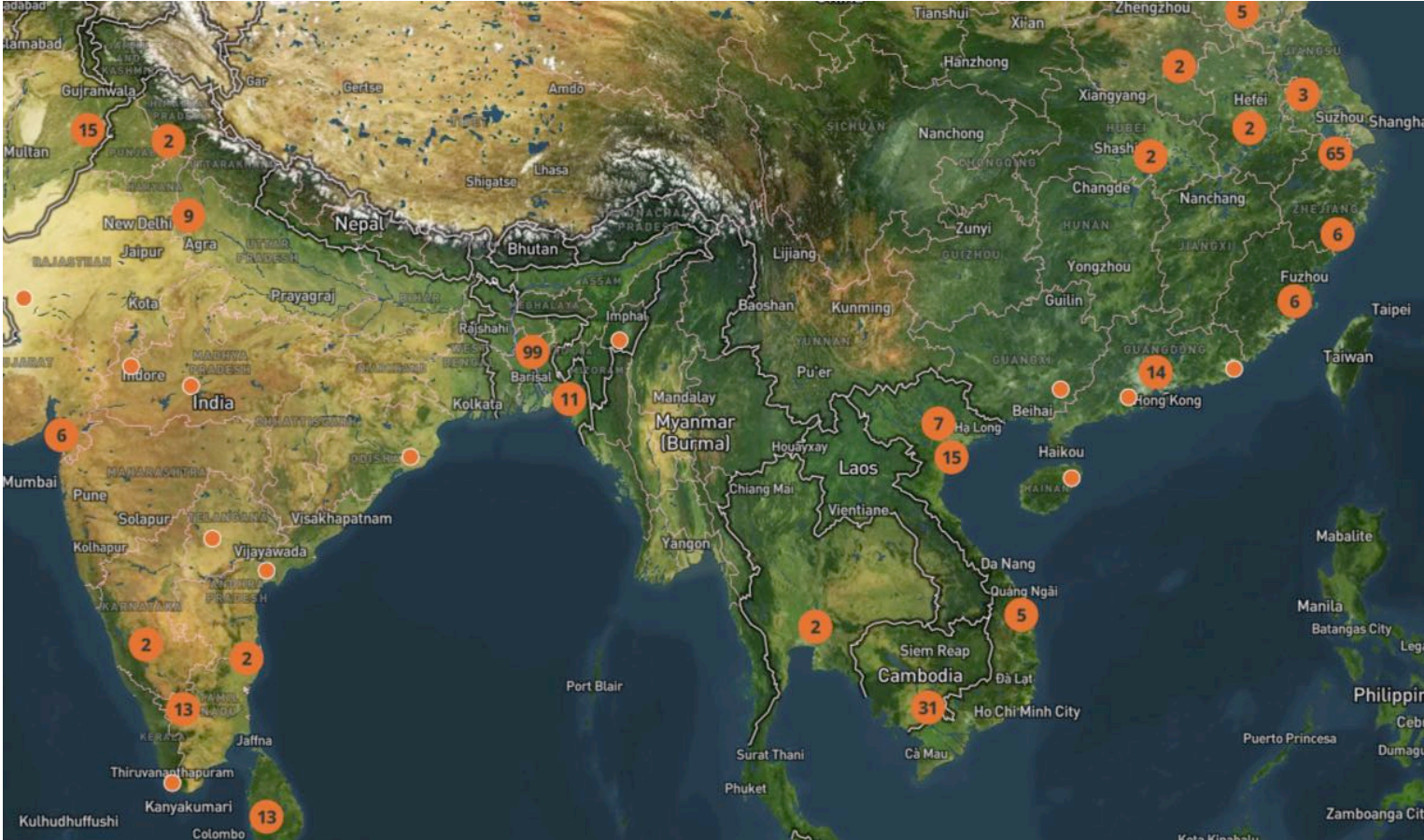
- Assets plotted
- Financial implications are modelled
- Review by asset managers
- Engagement with local experts



## Embedding of tooling in risk management process



# Extreme heat is a key risk affecting our supply chain in South-East Asia AND operations in Brazil





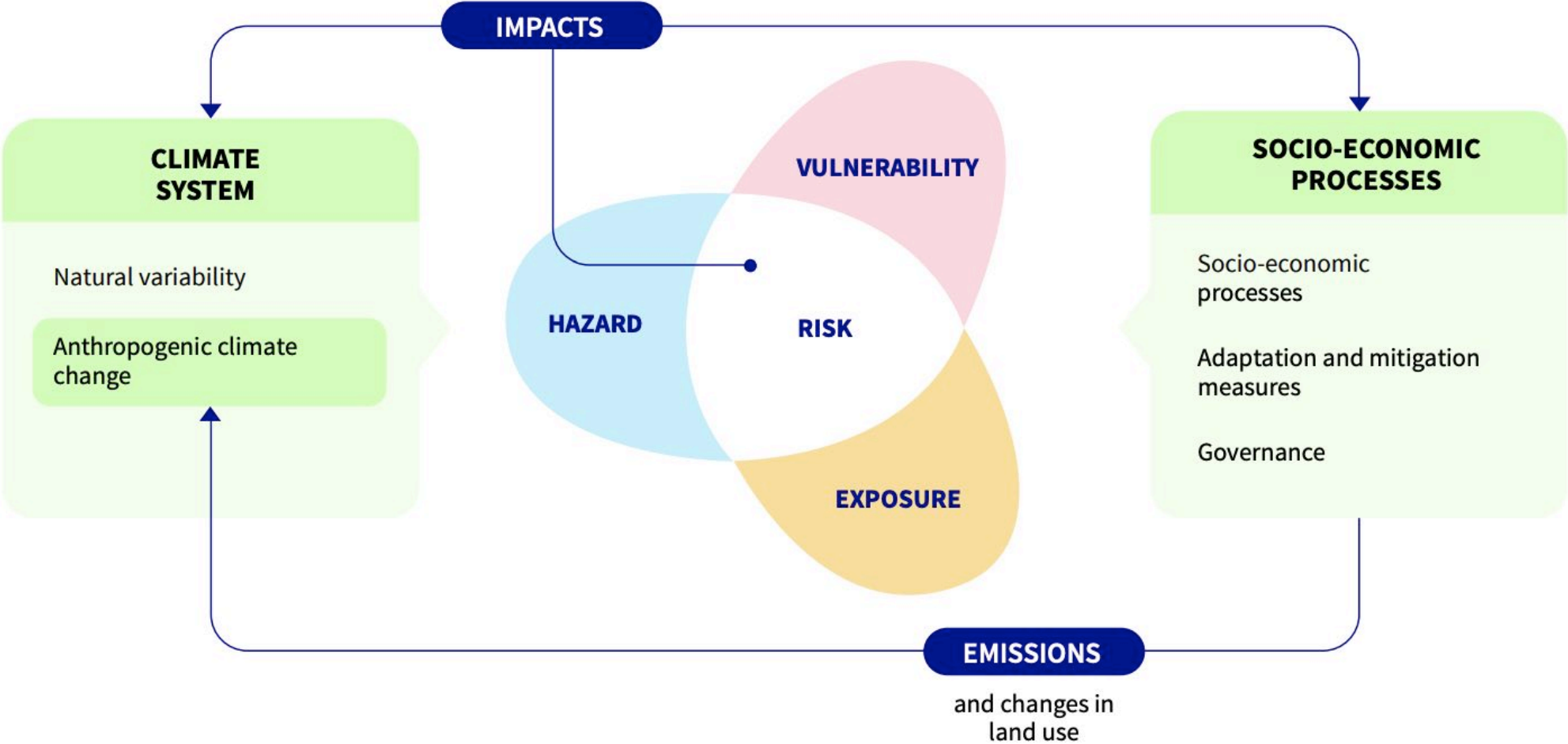
Part 2

# STARTING A CLIMATE ADAPTATION JOURNEY BY MEASURING RISKS

10 minutes

**Raise your hand if you think your  
company is well armed already to  
adapt to climate change**

# Climate risk is a combination of three factors: hazard, exposure and vulnerability



# From Climate Risk to Adaptation Measures



According to the IPCC, an efficient Adaptation :

- **Reduces the vulnerability** to climate change
- **Improves the resiliency** post natural catastrophes
- **Avoid maladaptation**

# From Climate Risk to Adaptation Measures

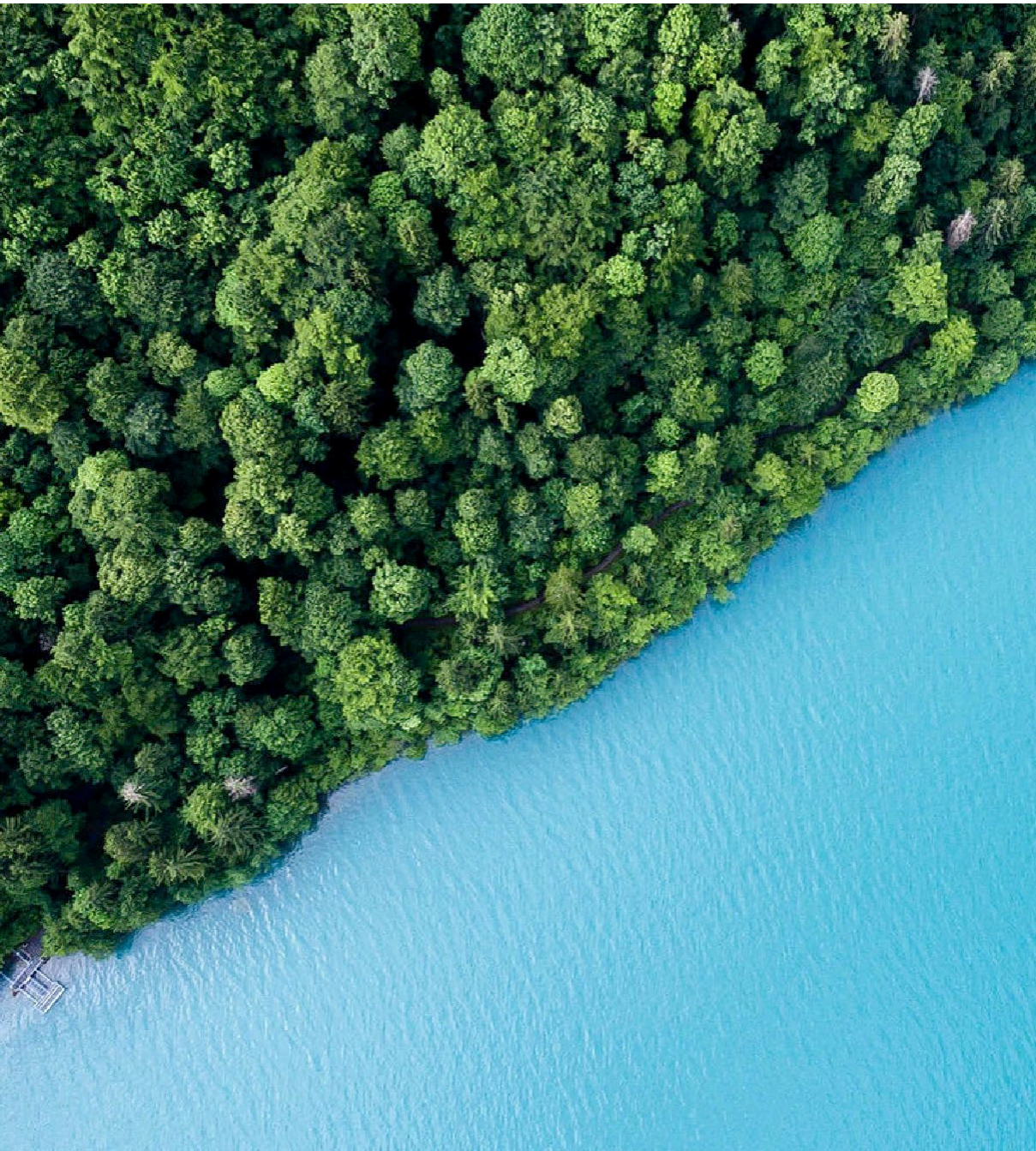


We talk about **maladaptation** when:

- We **solve** the issue, only in the short term
- We **increase** the vulnerability to a climate hazard
- We **create** a new vulnerability

**As climate risk is a *geographic concept*, a companies must know where the critical activities are occurring**





# Cofra Sustainable Impact Commitment



Two central goals demonstrate our human-centred approach to sustainability

01

## To bring the natural system into balance

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### By taking steps to halt climate change

- SBT for each group business on track
  - % emission reductions
  - Decarbonisation plans through to 2030
- 

### By taking action to safeguard nature and biodiversity

- Develop an approach and target for biodiversity
  - Offsetting through nature-based solutions with a focus on regeneration
- 

02

## To foster human dignity in a society that is more inclusive for all

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### By fostering employee wellbeing and equitable business practices

- Employee engagement and community participation (adapted per business)
  - Group Inclusion, Equity & Diversity policy and targets
  - Group Code of Conduct
  - Group Data Ethics / Privacy policy
- 

### By adopting practices that respect human rights and labour standards

- Evidence of management knowledge of salient topics
  - Group human rights policy
  - Approach to human rights adapted to business (fund / asset class / supply chain)
-

# Example of adaptation plan



<b>Built environment</b>	
<b>Reduce whole life carbon: Net ZERO by 2040</b>	
Reduce energy intensity	
Reduce absolute operational carbon	
Measure and reduce absolute embodied carbon	
<b>Increase onsite renewable energy generation</b>	
<b>Implement climate adaptation measures</b>	
Assess physical and transition risks associated with assets	
Incorporate climate adaptation solutions	

Reduce consumption of energy.

Operational absolute carbon.

Embodied absolute carbon emissions of building materials and other resources that enter the construction sites managed by Redevco. Preferred: reuse of foundation, timber construction. Measured by LCA calculations for redevelopments/ acquisitions.

Amount of renewable energy generated on-site (e.g., solar panels) for landlord and tenant operated areas.

Physical climate risk result from extreme climate events on a building, like urban heating, flooding.  
 Transitional climate risks result from policy and technology changes like EPC regulation, insurance costs.

Actions to mitigate climate-physical risks like elevated entrances and floors, green roofs and trees, appropriate design of buildings, using shading, natural ventilation and good thermal insulation.

Part 3

# TAKING ADAPTATION ACTIONS

10 minutes

**Raise your hand if you already have implemented concrete actions on your industrial sites to reduce climate risks**

# Zoom on Adaptation



Adaptation does not always require technologies

# Zoom on Adaptation



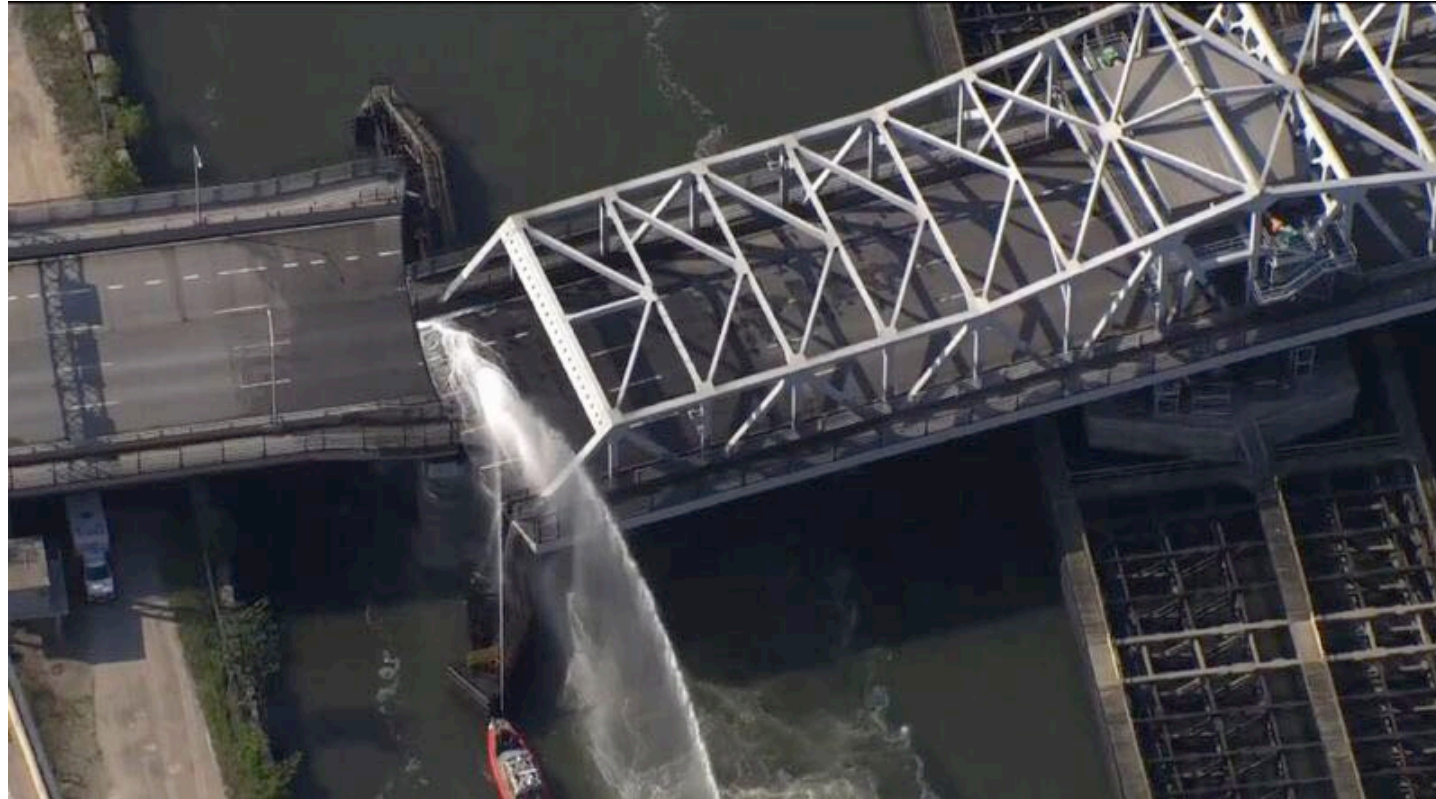
Adaptation is not only « common sense »

# Zoom on Adaptation



Tackling adaptation alone will face limits

# Zoom on Adaptation



To adapt is also thinking about dependencies

# Zoom on Adaptation - The example of Water Stress

## Examples of « Green » adaptation measures

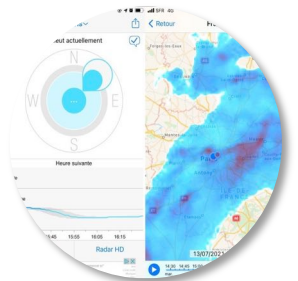
- Collect rainwater for irrigation and non-potable usage
- Reforestation et revegetation to increase ground-water replenishment and reduce rainwater runoff
- Agroforestry: plant trees within agricultural systems to increase humidity in the ground, and reduce water stress on crops and livestock

## Examples of « Grey » adaptation measures

- Installation of efficient irrigation systems, such as drip irrigation, to reduce water use for agriculture
- Installation of collection and re-use systems for the treatment and re-use of used water, for industrial, agricultural and urban usage

## Examples of « Soft » adaptation measures

- Organisation of awareness campaigns on water resource preservation good practices
- Adoption of policies and regulations during drought periods and incentivize the adoption of more efficient technologies
- Forecast and watch: use tools to anticipate climate impacts to plan and manage the water resources in a more efficient way



# Zoom on Adaptation - The example of Flood



## Examples of « Green » adaptation measures

- Plant vegetation on the riverbanks
- Reforestation et revegetation to increase ground-water replenishment and reduce rainwater runoff

## Examples of « Grey » adaptation measures

- Installation of defence systems, such as retaining walls, or removable walls
- Redesign and resize water drainage systems
- Relocate most at-risk and/or critical infrastructures

## Examples of « Soft » adaptation measures

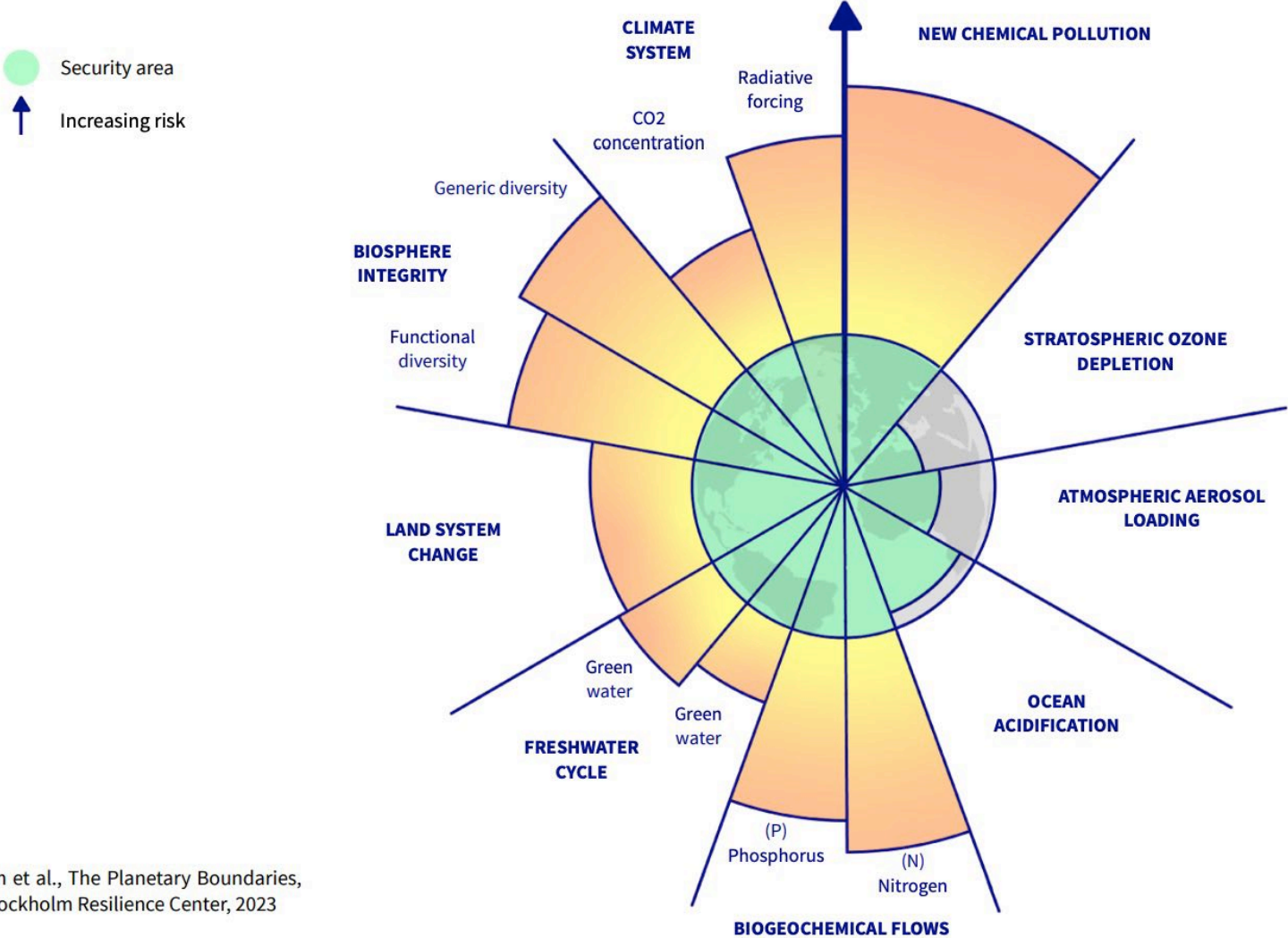
- Organisation of awareness and education campaigns on the topic
- Revise and update Emergency plans, and Business Continuity Plans, to factor in an increasing risk due to climate change



# CONCLUSION

5 minutes

# To effectively address the challenges ahead, it is essential to consider the nine planetary boundaries as a whole



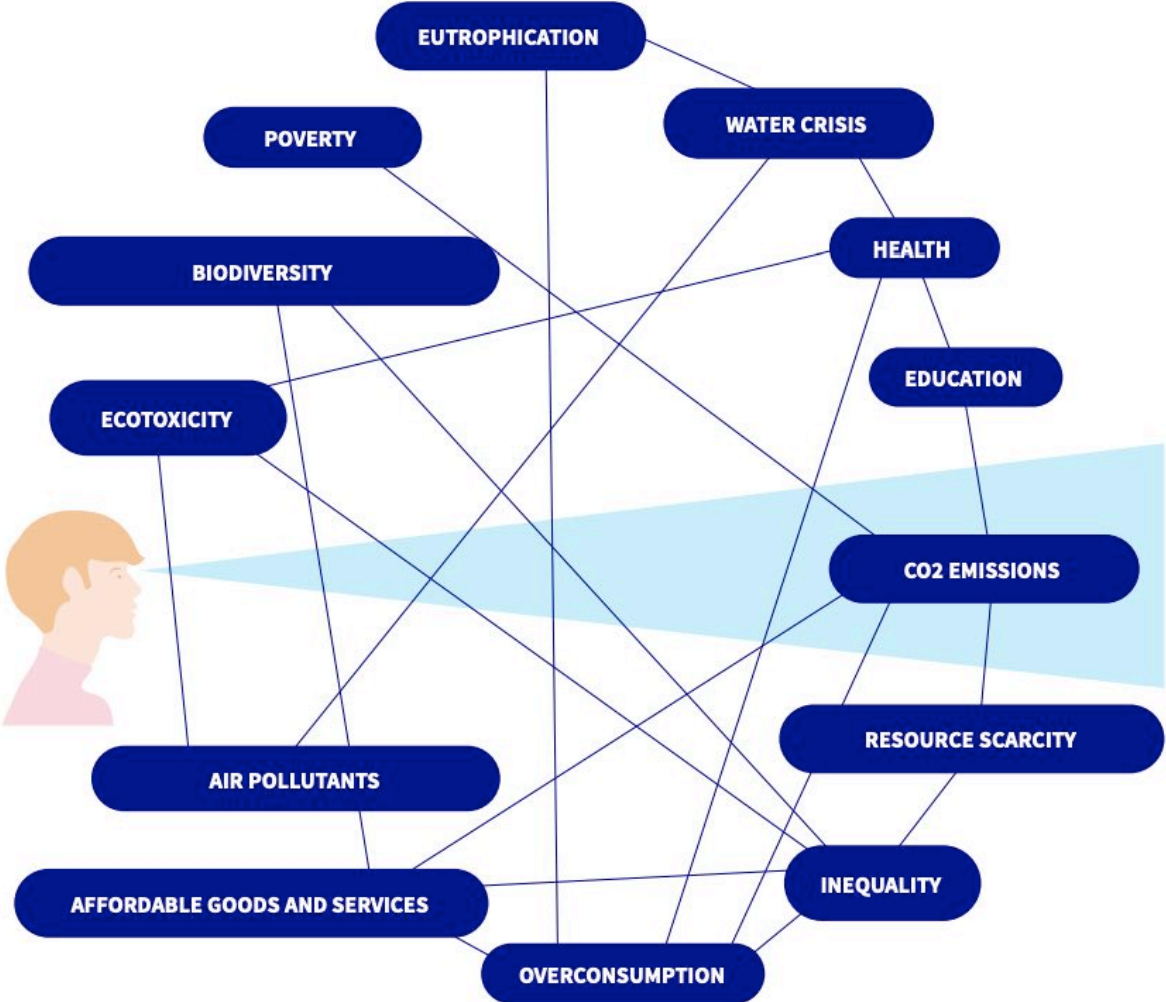
Source: Johan Rockström et al., The Planetary Boundaries, 2009 – Updated by the Stockholm Resilience Center, 2023

# And to consider your entire value chain and stakeholders



## Carbon Tunnel Vision

*Merely reducing emissions leaves much of the negative impact unaddressed*



# Key points on Climate Adaptation



1. It is essential to **identify priority climate risks** in terms of their frequency, intensity and the values of the activities concerned.
2. Companies must **define new objectives**, select adaptation measures, preferably based on nature, and assess their feasibility and effectiveness in line with their risk profile and operational risk mapping.
3. An adaptation strategy must go hand in hand with a **mitigation strategy**.
4. Adaptation measures must be “**no regrets**”, scalable and integrated into an action plan with monitoring indicators to measure their progress over time.
5. The adaptation of companies must **consider the local ecosystem** and the territories in which they operate.
6. It is essential to **adopt a systemic approach** to environmental challenges, taking into account the nine planetary boundaries



**Thank you!**