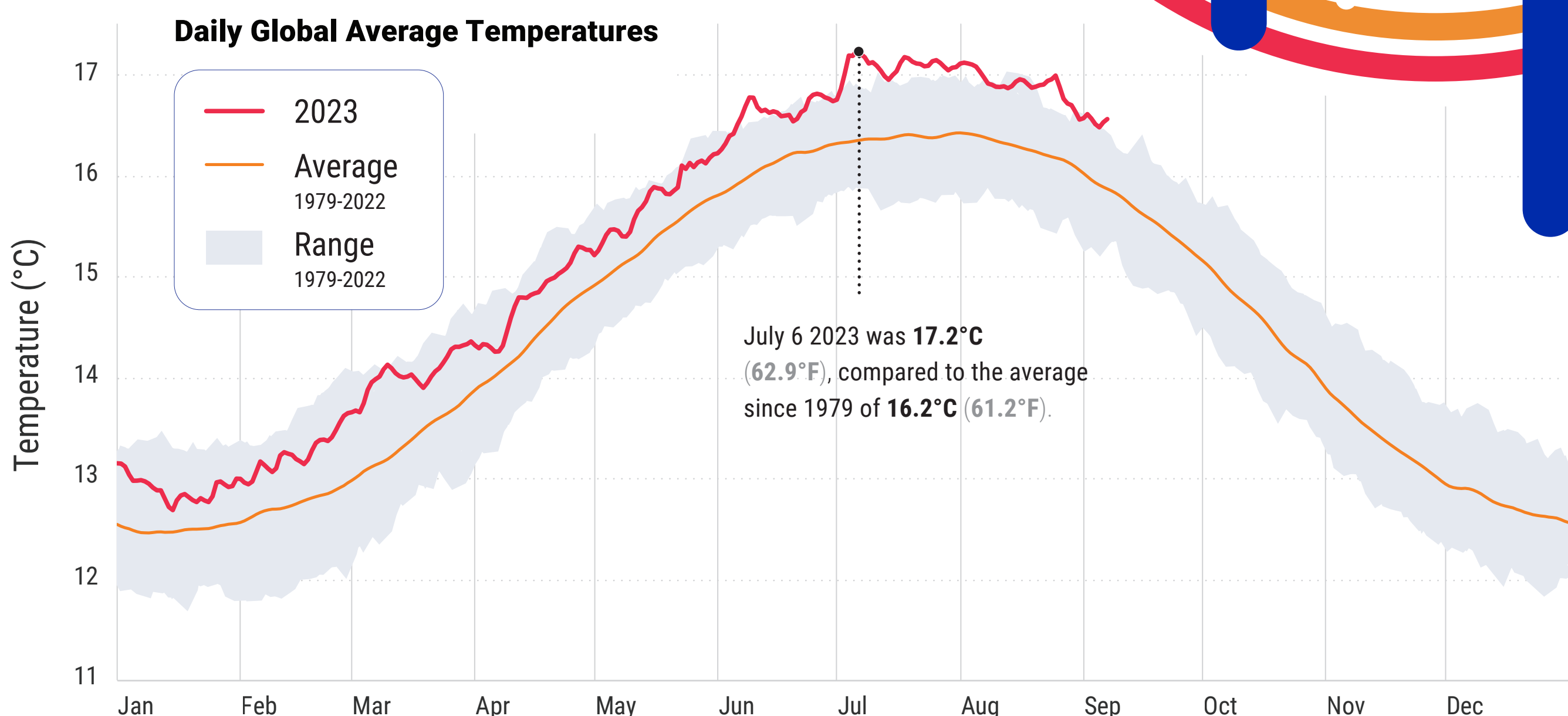


WEATHERING PHYSICAL CLIMATE RISKS



In 2023, we experienced Earth's hottest days on record.



Source: Climate Reanalyzer, 2023

As the climate changes, physical hazards like fires and floods are projected to become more frequent and intense.

How can you measure your risk?

A Breakdown by Type



Acute Risks

Driven by events and can cause business interruption & asset damage.



Fluvial flooding
Flood height (m)
100-yr return period



River low flow
Days of flow below the 2.5% discharge percentile
100-yr return period



Wildfires
Fire probability in %
1-yr return period



Coastal flooding
Flood height (m)
100-yr return period



Tropical cyclones
Wind speed (m/s)
100-yr return period

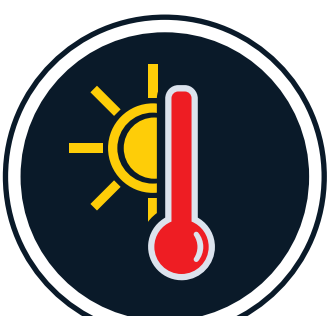
Coastal flooding & tropical cyclones are the primary contributors to physical risk.

Driven by long-term climate shifts and can cause business interruption.

Chronic Risks



Wind gusts
Days with windspeeds above 24m/s



Extreme heat
Days with temperatures above 30°C



Extreme cold
Days with temperatures below 0°C



Heavy rain
Days with rainfall above 2.5mm/h



Heavy snowfall
Days with snowfall above 5cm/day

Source: MSCI, 2023

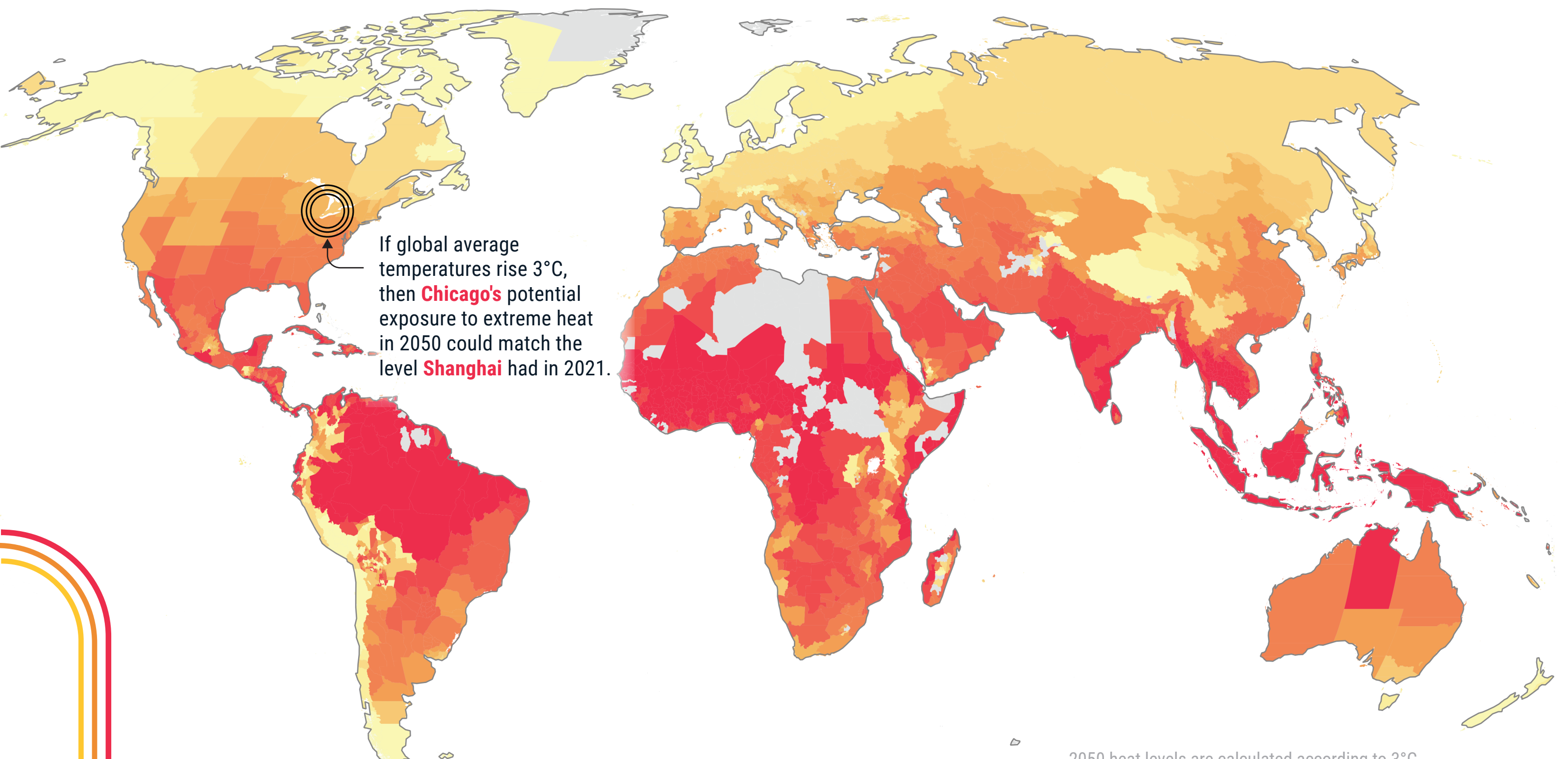
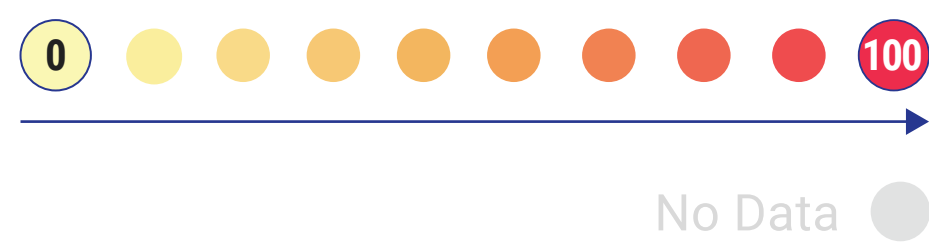
Depending on the type of hazard, certain regions are more susceptible than others.

A Breakdown by Region

Forecasting the geographic exposure to extreme heat over the next few decades can help identify vulnerable areas.

Extreme Heat Percentiles

Projected for 2050



Like extreme heat, all physical hazards can lead to additional costs for a company.

2050 heat levels are calculated according to 3°C REMIND NGFS NDC scenario

Which sectors could be most affected?

A Breakdown by Sector

Physical Climate Value-at-Risk

Research suggests that the utilities sector is at risk of the highest additional costs relative to company valuations, while the I.T. sector has the least risk.

-15.9% **Utilities**

-10.9% **Financials**

-10.4% **Energy**

-10.2% **Real Estate**

-9.5% **Materials**

-7.9% **Consumer Staples**

-7.8% **Industrial**

-6.2% **Comm. Services**

-5.8% **Cons. Discretionary**

-3.4% **Health Care**

-2.2% **I.T.**

Physical climate risks are projected to increase, and they will affect all regions and businesses differently.

MSCI's physical risk data can help asset managers, banks, insurers, and companies assess their exposure.

Physical Climate Value-at-Risk is a metric that quantifies the potential financial risks or benefits that a company might experience due to its exposure to physical climate-related hazards.

Source: MSCI, 2023



Explore MSCI's Physical Hazard Metrics

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