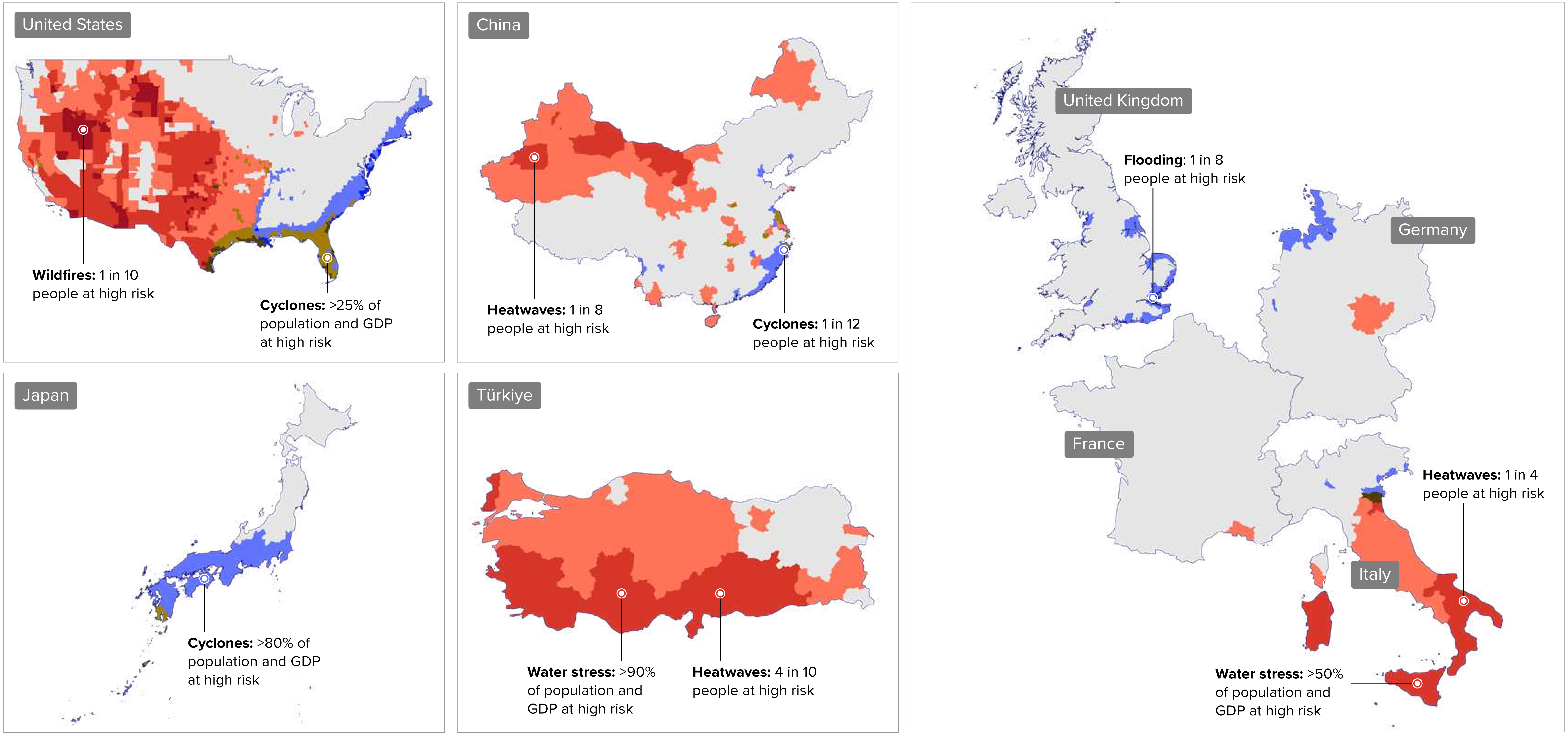
Physical Risk

The COP30 Net Zero Atlas

LSEG

Physical Risk

Figure 1. Regions projected to face high exposure to physical climate hazards in 2050 (SSP5-8.5) across eight G20 countries.



Heat-related hazards (heatwaves, wildfires, water stress)
1 hazard · 2 hazards · 3 hazards

Water and wind-related hazards (flooding and cyclones)
1 hazard · 2 hazards

Overlapping heat, water, and wind-related hazards
2 hazards · 3 hazards · 4 hazards

Source: LSEG analysis on Sust Global risk projection datasets

Physical Risk

Weather-related losses rose in the first half of 2025.

In 2024, global average temperatures reached their highest level on record, driven by a combination of long-term warming trends and a powerful El Niño. And while heat records dominated headlines last year, insured losses from natural disasters in the first half of 2025 have already exceeded the highest annual total since records began in 1980 – with weather-related disasters accounting for 98% of the cost.[1,2]

Recent events – such as the LA wildfires in January 2025 that caused an estimated US$250 billion in economic losses and heavy monsoon rain in Pakistan in June that cost at least 300 lives – reflect the devastating potential of extreme weather for economies and human livelihoods and the need to build resilience through early warning systems, and physical and behavioral adaptations.[3,4,5]

No single extreme weather event can be attributed to climate change, however, global climate models consistently demonstrate that these extremes are no longer outliers but reflect an ongoing, broader transformation. As rising atmospheric concentrations of greenhouse gases drive higher average temperatures and greater weather extremes, physical climate risk intensifies and presents an increasingly systemic challenge, rather than a series of isolated shocks.

This year's Net Zero Atlas examines physical climate risk at the sub-national level across 4,416 regions in eight G20 economies.

Institutional investors increasingly recognise the challenge that physical climate risk is beginning to pose to markets and economies. What remains less clear is where and at what scale these risks will materialise; pinpointing exposure requires overlaying granular, hazard-specific mapping and projections with detailed local socio-economic data.

We expand our analysis of the shifting topography of climate risks facing major cities in the G20 in last year's Net Zero Atlas to a full, national scale analysis of physical climate risk across eight G20 economies where granular GDP and population data are most readily available. This includes 4,416 regions across the United States, China, Japan, Germany, the UK, France, Italy, and Türkiye, which are home to 2.2 billion people and generate US$63.9 trillion in GDP, or roughly 60% of the global economy.[6]

Understanding mid-century physical risk exposure

We assess exposure across five hazards – cyclones (known as hurricanes in the Atlantic and Caribbean and typhoons in the Pacific northwest), flooding, heatwaves, water stress, and wildfires based on data from Sust Global.

Our baseline projections to 2050 assume the SSP5-8.5 scenario.[7] In this scenario, rapid economic growth and limited mitigation efforts mean that the goals of the Paris Agreement are not achieved and emissions continue to increase beyond 2050. Global average temperatures warm by 2.4°C by 2050 compared to the pre-industrial average and continuing to increase further.[8] We note that future emission pathways and climate projections are subject to significant uncertainty margins, and the choice of scenario is not the main driver of climate uncertainty before 2050.

However, we believe that the conditions described in the report are broadly representative of the medium term physical risk landscape investors will face if emission reduction efforts are not substantially accelerated to achieve net zero emissions by the middle of the century. For example, in a "middle of the road" mitigation scenario (SSP2-4.5) – where global emissions stagnate at current levels and begin to gradually decline post 2050 – similar physical risk conditions would occur around 2070.[9]

Physical Risk

Across these eight economies, physical climate hazards could place an additional half billion people and US$20 trillion in GDP at high risk by mid-century.

Across the eight G20 countries we assess, currently 549 regions with a combined population of 155 million (7% of the population of the eight countries analysed) and US$7.8 trillion in GDP face high risk exposure to at least one of the climate hazards we assess.

Our results show that risk exposure rises sharply by 2050 putting 839 million people and US$28.3 trillion at risk. This means that the share of high-risk regions in the eight G20 countries is projected to increase more than threefold – while the exposed population and economic activity quadruple.

Figure 2 shows the extent to which the eight countries are at high risk from different climate hazards – heatwaves, cyclones, flooding, water stress, and wildfires – measured by area, people, and GDP (see Annex Table 2 for definitions of severity thresholds). Each panel shows increases in exposed land, population, or economic activity from a historic baseline period (1980-2010) compared to projections for 2050.

Exposure to extreme heat and water stress is set to expand particularly rapidly, with 327 million people across the US, China, Türkiye, southern France and Italy facing temperatures above 35°C for more than a month per year (up from just 9.9 million today). In areas with dense vegetation, particularly the northwestern United States, growing wildfire risk will further compound these challenges.

For wind and water-related hazards, large urban areas such as New York, Tokyo and Shanghai will fall into high cyclone risk by 2050, with the at-risk population multiplying nearly fivefold compared to baseline conditions. Flooding, already ranked among the costliest hazards, is projected to increase in both frequency and severity – with the amount of GDP exposed almost tripling to US$4.5 trillion.

Physical climate risk confronts investors with increasingly complex, multi-dimensional risks.

The accelerating incidence of physical climate hazards is creating complex ramifications for financial markets, both in terms of risks and opportunities. For investors, this requires attention across several dimensions:

Measuring portfolio exposure. Physical risks are most obvious in sectors such as real estate and infrastructure, where asset values are tied to location. Municipal bonds are also exposed, as climate-related disasters can drive significant credit downgrades (as in the case of bonds from the LA Department of Water and Power after the wildfires in January 2025).[10]

Tracing knock-on effects across sectors and supply chains. The threat from climate hazards extend across sectors, putting critical trade routes, production facilities, data centers or logistics hubs at risk, often with global ripple effects. For example, in 2023 severe drought lowered water levels in the Panama Canal, reducing the number of ships able to pass through. Conversely major flooding in India's southern tech and auto hub of Chennai forced many manufacturing plants to close.[11,12]

Insurance markets for transferring physical climate risk are coming under strain. In highly exposed regions, greater uncertainty and rapidly shifting risk profiles are creating challenges around the availability and pricing of insurance. The global protection gap from natural disasters - the difference between total economic losses and what's covered by insurance - was 60% in 2024.[13] After repeated losses, insurers have in some cases retreated from high-risk areas, forcing homeowners to rely on government-backed insurers of last resort, or forgo insurance altogether.[14]

Evaluating resilience and adaptation measures. In addition to evaluating hazard exposure, investors also need to consider how resilient assets are to these risks today and adaptation efforts to increase resilience. Indeed, in a recent review of disclosures of 2,100 large and mid-cap listed companies, we found that 34% referred to taking some form of adaptation measures in their FY2024 reporting.[15]

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Figure 2a. Area facing high exposure to physical climate hazards.

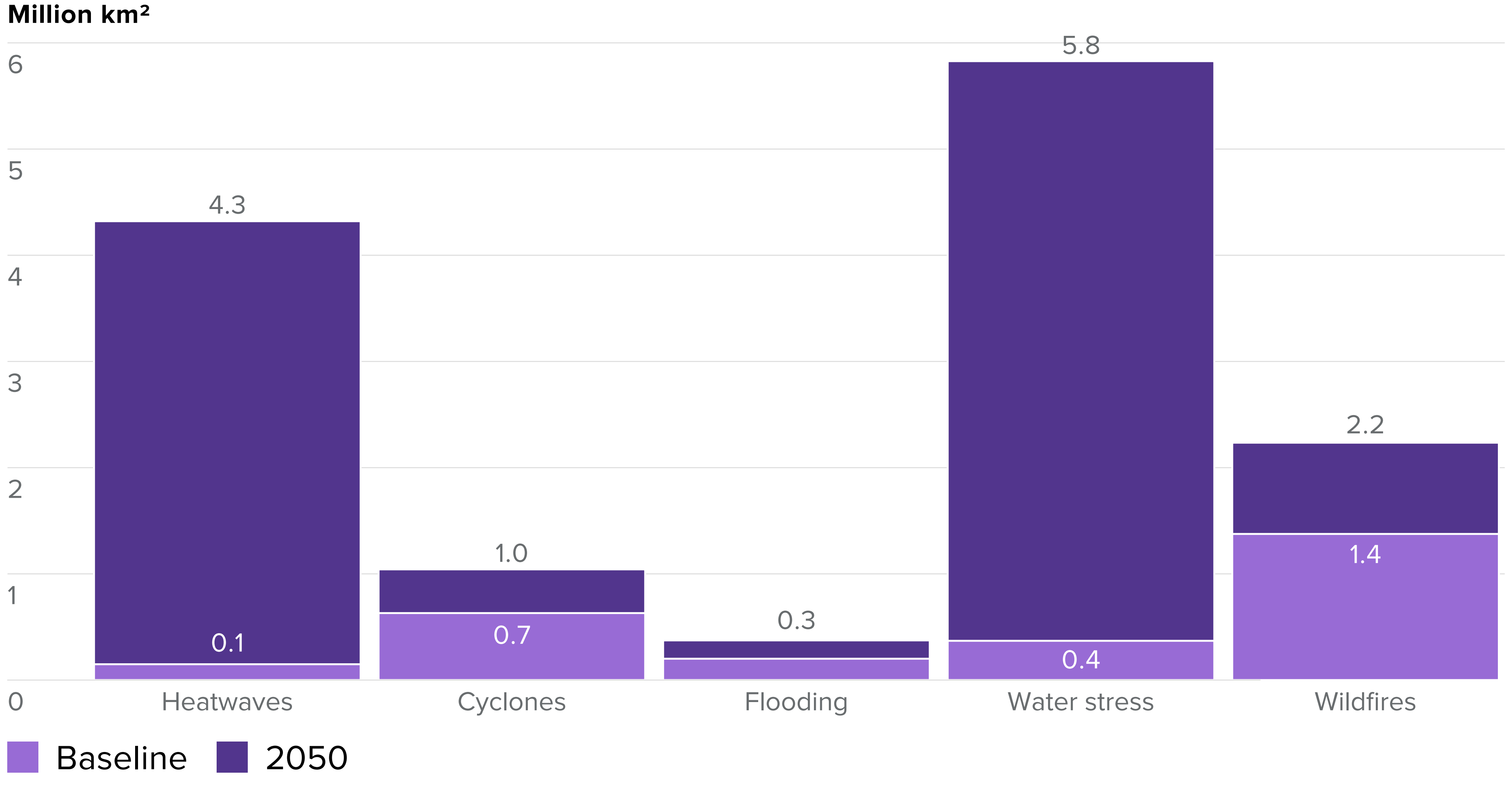


Figure 2b. GDP facing high exposure to physical climate hazards.

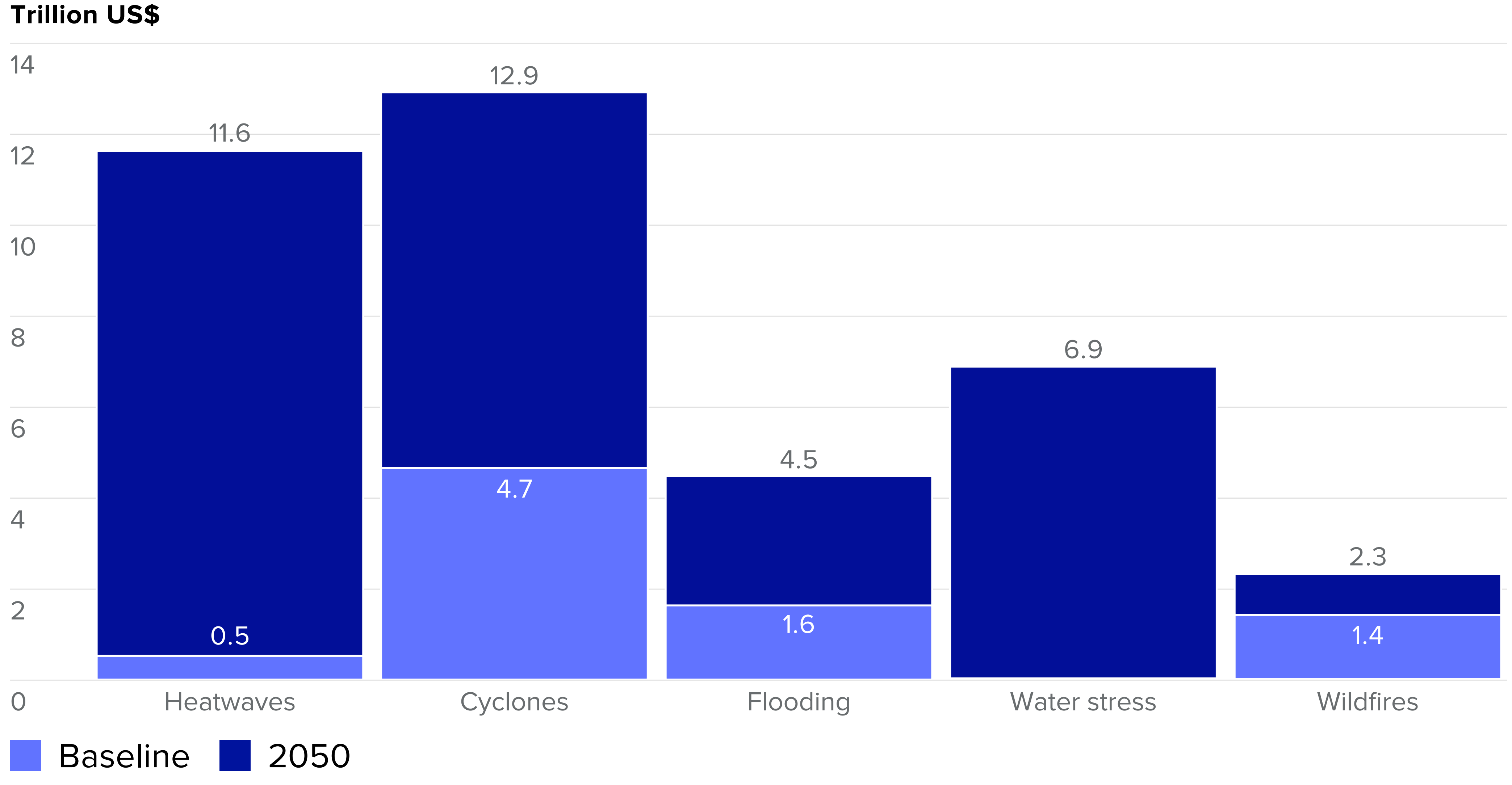
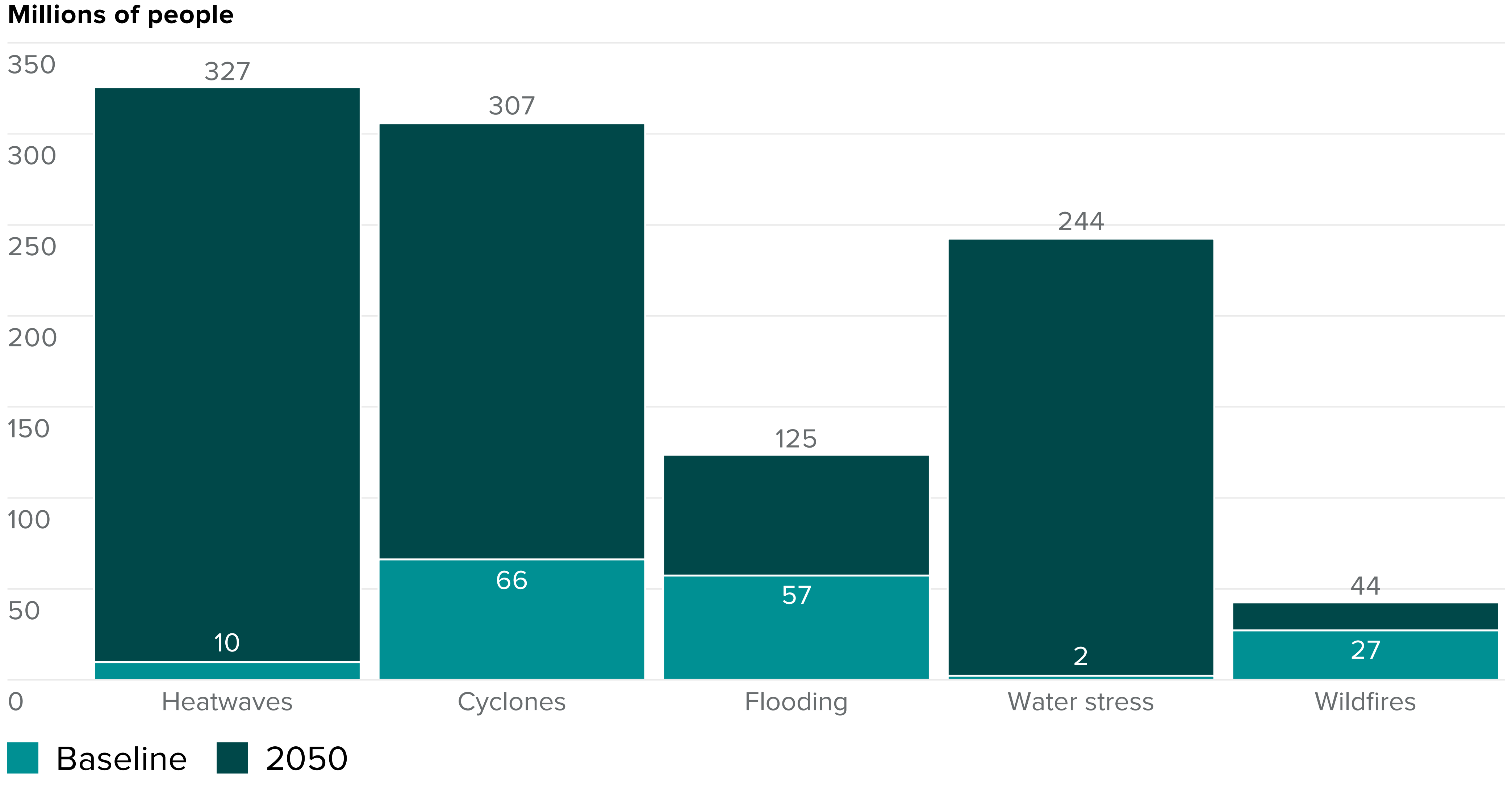


Figure 2c. Population facing high exposure to physical climate hazards.



Source: LSEG analysis on Sust Global risk projection datasets

Physical Risk

Cyclones – one of the most destructive and costliest hazards – will spread well beyond current highly exposed regions.

Tropical cyclones, also known as hurricanes in the Atlantic and Caribbean and typhoons in the Pacific northwest, are among the most destructive and costliest climate hazards globally. Over the past 50 years, tropical cyclones have claimed approximately 780,000 lives and inflicted US$1.4 trillion in economic losses – the equivalent to 43 deaths and US$78 million in damages daily.[16] Beyond immediate destruction, cyclones can also trigger significant disruptions to global supply chains, compromising major economic centres or logistic hubs.[17]

However, due to the specific conditions required for major cyclones to arise (primarily related to water temperatures and wind patterns), areas exposed to high cyclone risk are relatively concentrated geographically. Across the eight G20 countries in our analysis, fewer than 8% of the 4,416 regions experience a cyclone once a decade or more, with material risks concentrated along the eastern seaboards of the US, Japan and China (see Figure 3).

The most exposed regions in our sample, Okinawa in Japan and Miami-Dade county in the US, experienced a cyclone once every 2.7 and 4.7 years, respectively, in the period from 1980-2010.

Recent events underscore the risks: Hurricane Ian (2022) for example, caused over US$112 billion in damage – the costliest in Florida's history – with 149 confirmed fatalities in the state alone.[18] In Japan, Typhoon Hagibis (2019) resulted in US$17 billion in nationwide losses, while in 2023, Typhoon Khanun left roughly one-third of Okinawa households without power.[19]

Florida-level cyclone risk is projected to spread to significant population centres.

With climate change, rising ocean temperatures are expected to make cyclones more frequent and more intense.[20] In our sample, the number of regions with high exposure (defined as facing a cyclone on average at least once every 10 years) is projected to increase by over a third from 345 to 472 by 2050. In some cases, cyclone risk is further compounded by sea level rise (like in the case of Tokyo) or even a combination of sea level rise and high flooding risk (like in the case of New York).

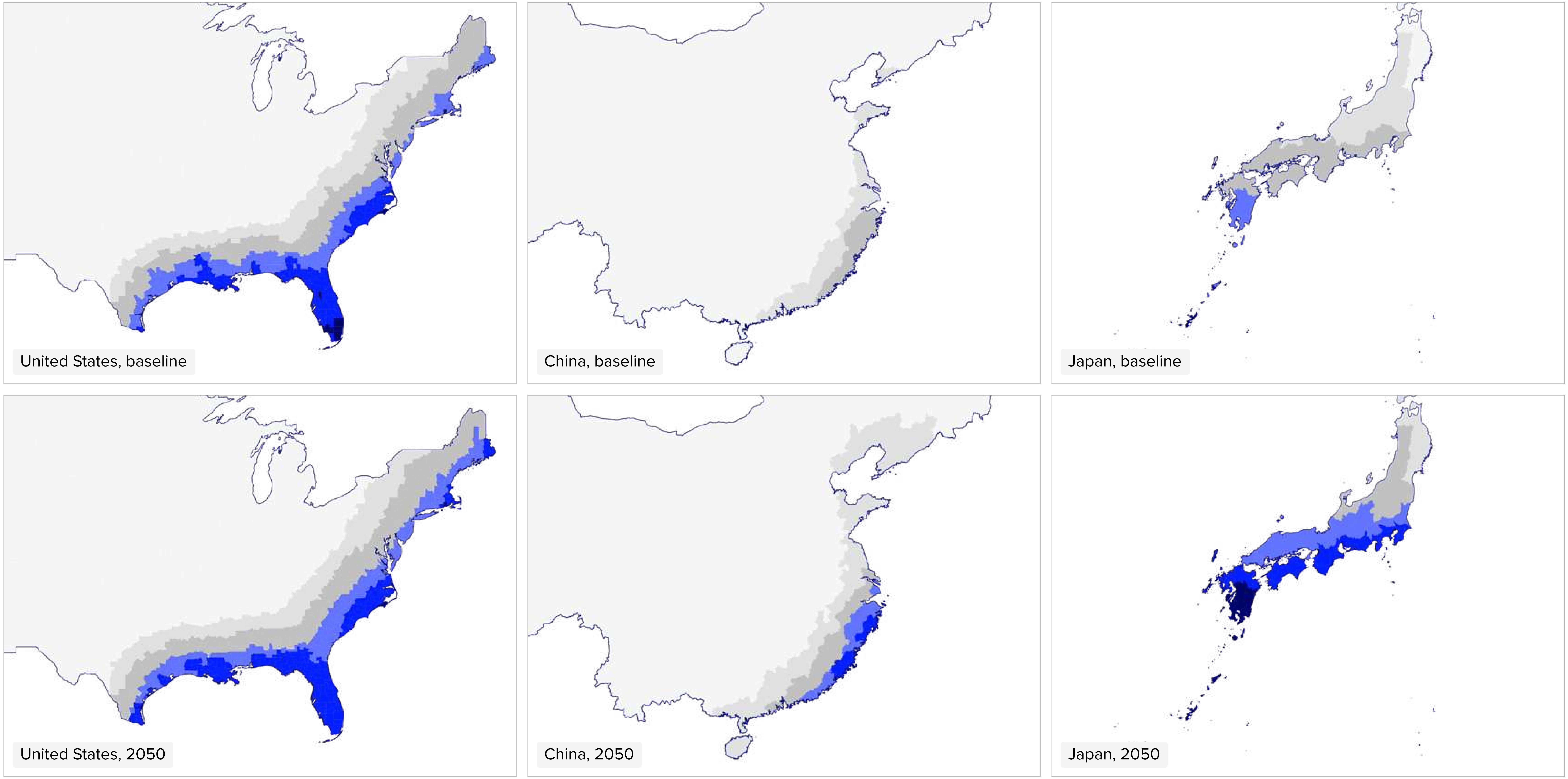
Emerging high-risk regions include China's southeast coast, the southern half of the Japanese archipelago, and the northeastern US coast. Because these regions include major population and economic centres, the share of people and GDP exposed to high cyclone risk is projected to rise 1.8-fold and 3.7-fold; from 66 million people and US$4.7 trillion today to 307 million people and US$12.9 trillion by 2050.

In **China** (where cyclone risk is moderate today) over 1,500 km of coastline south of Shanghai – home to 118 million people and almost 12% of China's GDP – will face a cyclone every decade or less. Regions like Ningbo and Wenzhou (each with populations near 10 million) are estimated to face cyclones every 5-7 years - matching Florida's historical rate.

In **Japan**, warming ocean temperatures in the Northwest Pacific are contributing to more favorable conditions for intense tropical cyclones.[21] By 2050, over 80% of both population and GDP will be exposed to a cyclone on average once a decade by 2050 – up from less than 5% today. Twenty-one of Japan's 47 prefectures, including Tokyo, Osaka, Kanagawa, and Aichi, will together place almost 100 million more people and US$3.5 trillion (84% of national GDP) at risk.

In the **United States**, even though hurricane frequency is projected to decline slightly in some of the worst affected counties in Florida (see Figure 3), on balance, an additional 25 million people and US$2.7 trillion in GDP will be exposed to a Category 1 cyclone or higher at least once a decade. The largest increase is in the North Atlantic, where the number of exposed counties north of Delaware more than doubles from 24 to 62 by 2050, including the New York and Philadelphia metropolitan areas.[22]

Figure 3. Average cyclone return period – how often a cyclone is expected to occur at a given location – for the 1980–2010 baseline period (top) and projected frequency in 2050 (bottom).



Source: LSEG analysis on Sust Global risk projection datasets

Low risk area
≥100 yrs
20-100 yrs
10-20 yrs

High risk area
7-10 yrs
5-7 yrs
≤5 yrs

Physical Risk

Flooding – already ranked among the top climate hazards driving economic losses – is projected to increase in both frequency and severity globally.

In 2024, flooding drove more than US$109 billion in annual global losses, second only to tropical cyclones.[23] Yet the insurance protection gap (calculated as uninsured versus total losses), is approximately 75%, leaving flooding as one of the most underinsured hazards globally.[13]

Flood risks in our sample are concentrated along China's coastal deltas and inland river systems, the US East Coast and Mississippi Delta, and low-lying coastal regions of the United Kingdom, Germany and Italy – including urban centres such as Dongguan, Sacramento, New Orleans, Düsseldorf, and Venice. Currently, 2.8% of the over 4,400 regions we examine face high flood risk – defined as a significant flood event at least once every 30 years on average (a common threshold for flood risk used by government agencies and financial institutions like insurers, and mortgage providers).[24,25]

Losses from flooding are likely to increase, as hotter average temperatures drive more intense rainfall events due to increasing evaporation and the greater moisture carrying capacity of warmer air. While flood risks remain broadly concentrated in the same areas, the higher incidence of flood risks means that by 2050, 124.8 million people and US$4.48 trillion in GDP will be exposed to high flood risk, more than double today's values (Figure 4).[26]

Across the eight G20 countries we assess, growing flood risks are concentrated in China, the US and the UK.

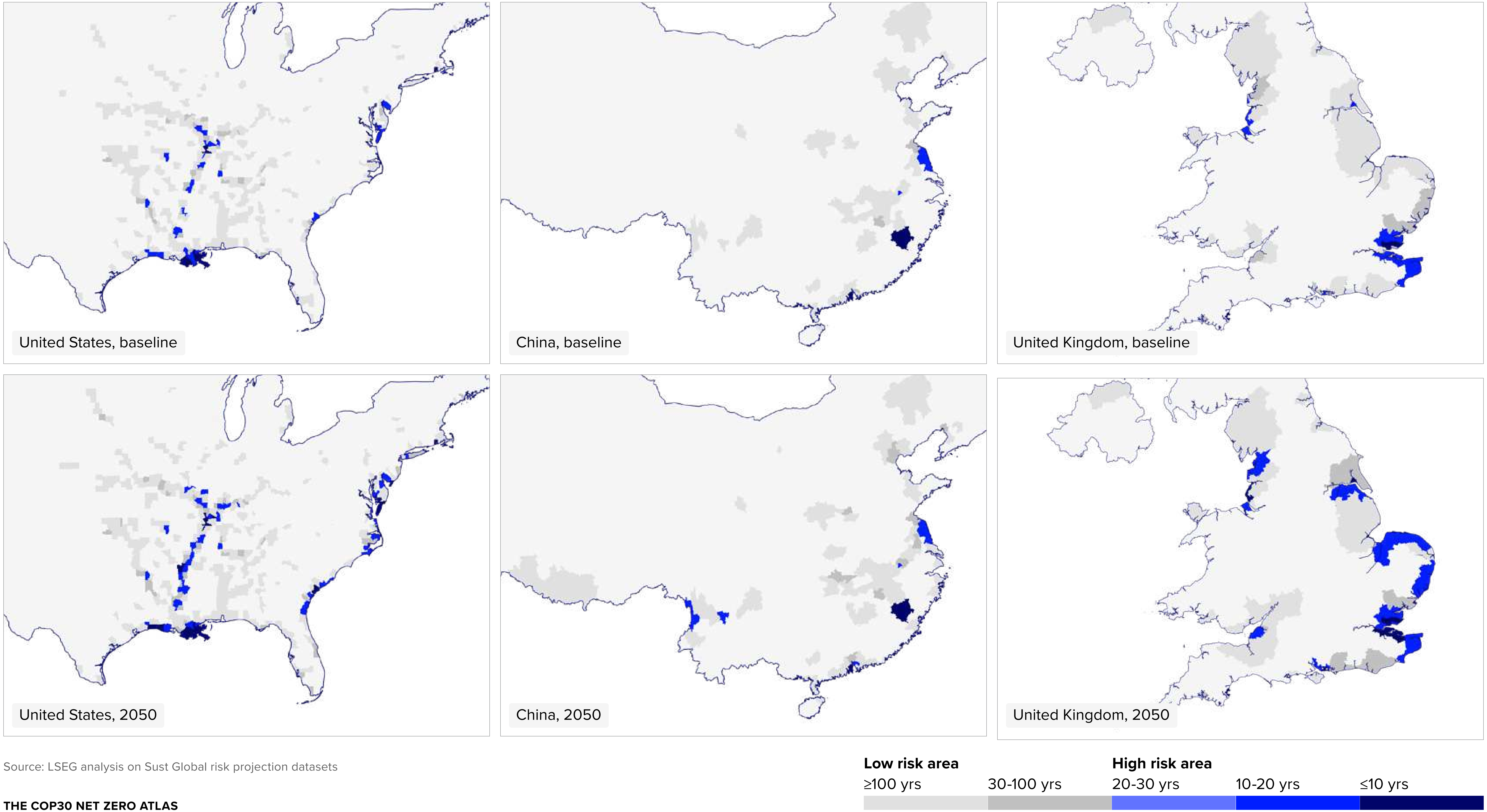
Taken together, China, the US and the UK account for over 90% of the additionally exposed population in our sample, and where in each the share of GDP exposed flooding risk is approaching 10% by 2050.

The **UK** is the most exposed country in our study by share of population and GDP at high flood risk. The Thames Estuary, near London, is already vulnerable, with 3 million people and US$100 billion in GDP at risk. By 2050, major flood frequency is expected to rise by over 20%, intensifying pressure on infrastructure like the Thames Barrier which protects the capital. By mid-century, over 8.3 million people and 9.7% of GDP will be exposed to high flood risk – up from 5.6 million and 6.2% of GDP today, with risks increasing materially for population centres near river estuaries like the Mersey and Humber, on the South Coast and low-lying Eastern areas.

In **China**, almost 53 million people and US$1 trillion in GDP will be newly exposed to high flooding risk by 2050. This includes industrial megacities like Guangzhou and Tianjin, along with inland hubs such as Jingzhou and Yangzhou on the Yangtze River.

In the **United States**, nearly 20 million people and US$2.4 trillion in GDP are projected to face high flood risk by 2050 – an increase of 158% and almost 300%, respectively, compared with baseline levels. Much of this is driven by growing risks in the New York metropolitan area, but also includes hubs such as Memphis along the Mississippi River.

Figure 4. Average flood return period for the 1980–2010 baseline period (top) and projected frequency in 2050 (bottom).



Source: LSEG analysis on Sust Global risk projection datasets

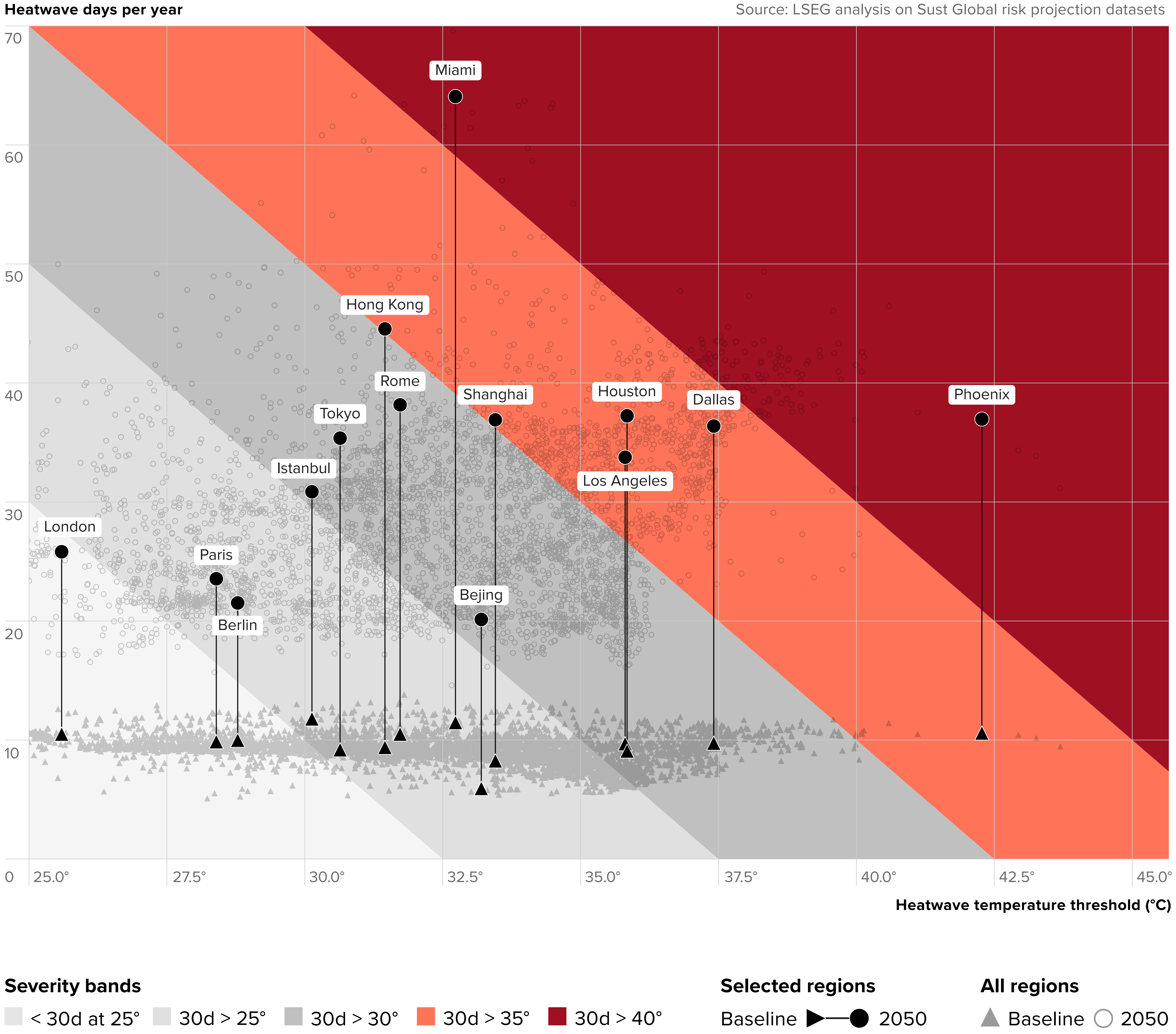
Extreme heat – among the fastest-rising and deadliest climate risks – is set to escalate sharply by mid-century.

Heatwaves are already among the most lethal natural hazards. In Europe, heat was linked to an estimated 47,000 deaths in 2023 and more than 60,000 in 2022, while record-breaking heat in China this summer affected about 200 million people and drove power demand to an all-time high.[27,28] According to Moody's estimates, labour-productivity losses already amount to about 1% of global GDP and could rise to rise to 3% by 2050.[29,30]

Across the eight G20 members we assess, 12 regions, home to just under 10 million people in the southwestern United States and southeastern Türkiye, experience intense heat conditions in our baseline period of 1980-2010 – defined here as an average of at least 30 days per year above 35°C (as shown in Figure 5).

By 2050 – as average temperatures increase globally and become more variable – areas affected by intense heat expand dramatically to over 1-in-5 of the 4,416 regions we cover. These regions are home to over 327 million people, including over 10% of China's population, over a quarter of the US population and almost 40% of Türkiye's population (see Figure 6), including megacities such as Shanghai, Hong Kong, Los Angeles, and Houston.

Figure 5. Threshold heatwave temperatures and the number of days exceeding them during the baseline period and under 2050 projections.



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When it comes to extreme heat, defined as 30 days or more over 40°C (or 50 days or more over 35°C), 145 regions are projected to meet this threshold compared to none in our baseline period. This includes significant parts of Texas and Arizona; Zhanjiang and Hainan (China); southeastern Türkiye; and the Italian islands of Sardinia and Sicily.

In many cases heat exposure intensifies rapidly, with heatwave days (defined as number of days above each region's 1980-2010 98th percentile annual temperatures) on average tripling across our sample. This creates challenges as populations in places unaccustomed to heat often lack the preparation – both behavioural and infrastructural – needed to cope with rising temperatures.[31]

Figure 6. Heatwave severity by region across the study sample. Colours correspond to the heatwave severity thresholds defined in Figure 5. Baseline (top) vs. 2050 (bottom).

Source: LSEG analysis on Sust Global risk projection datasets

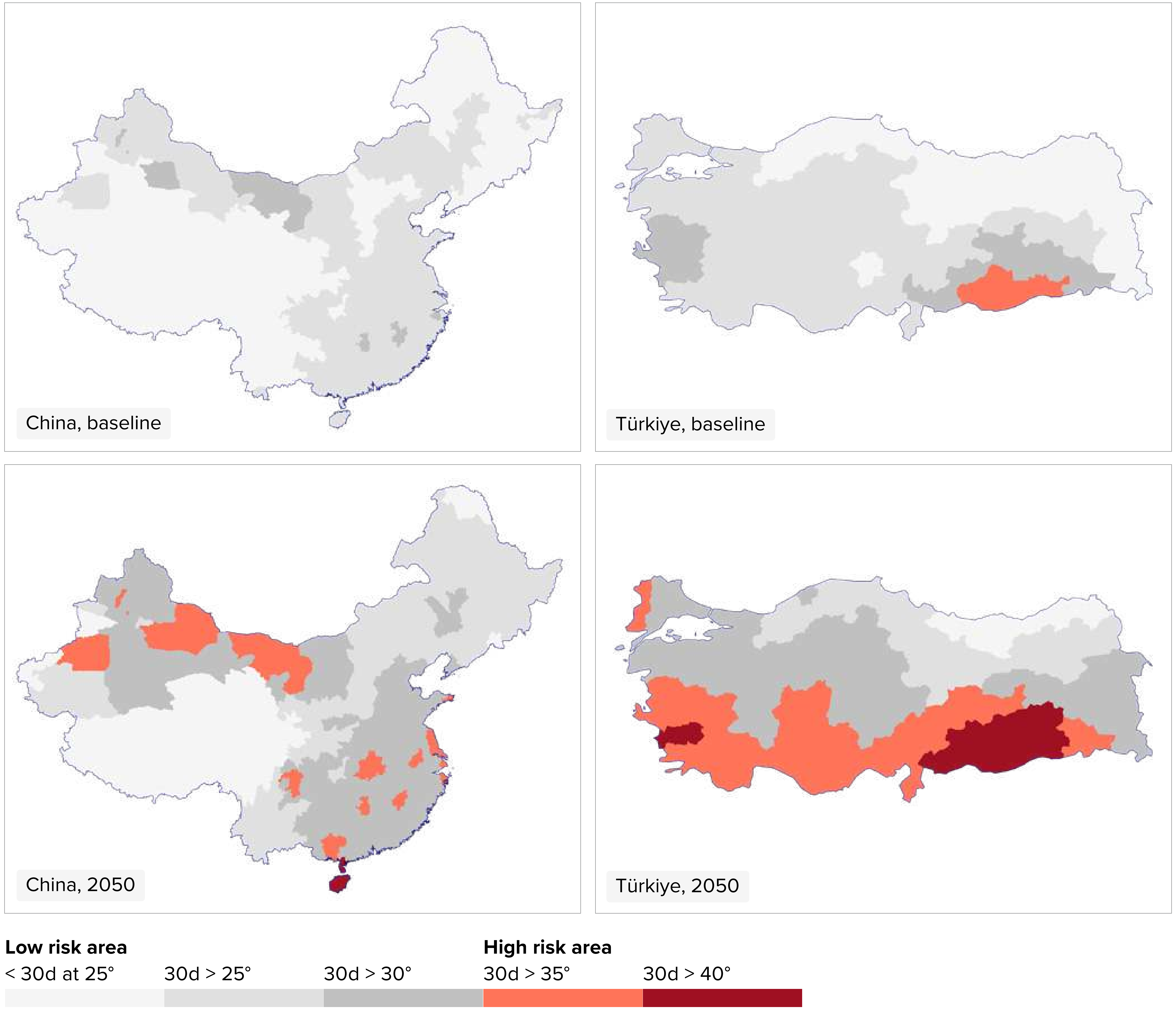
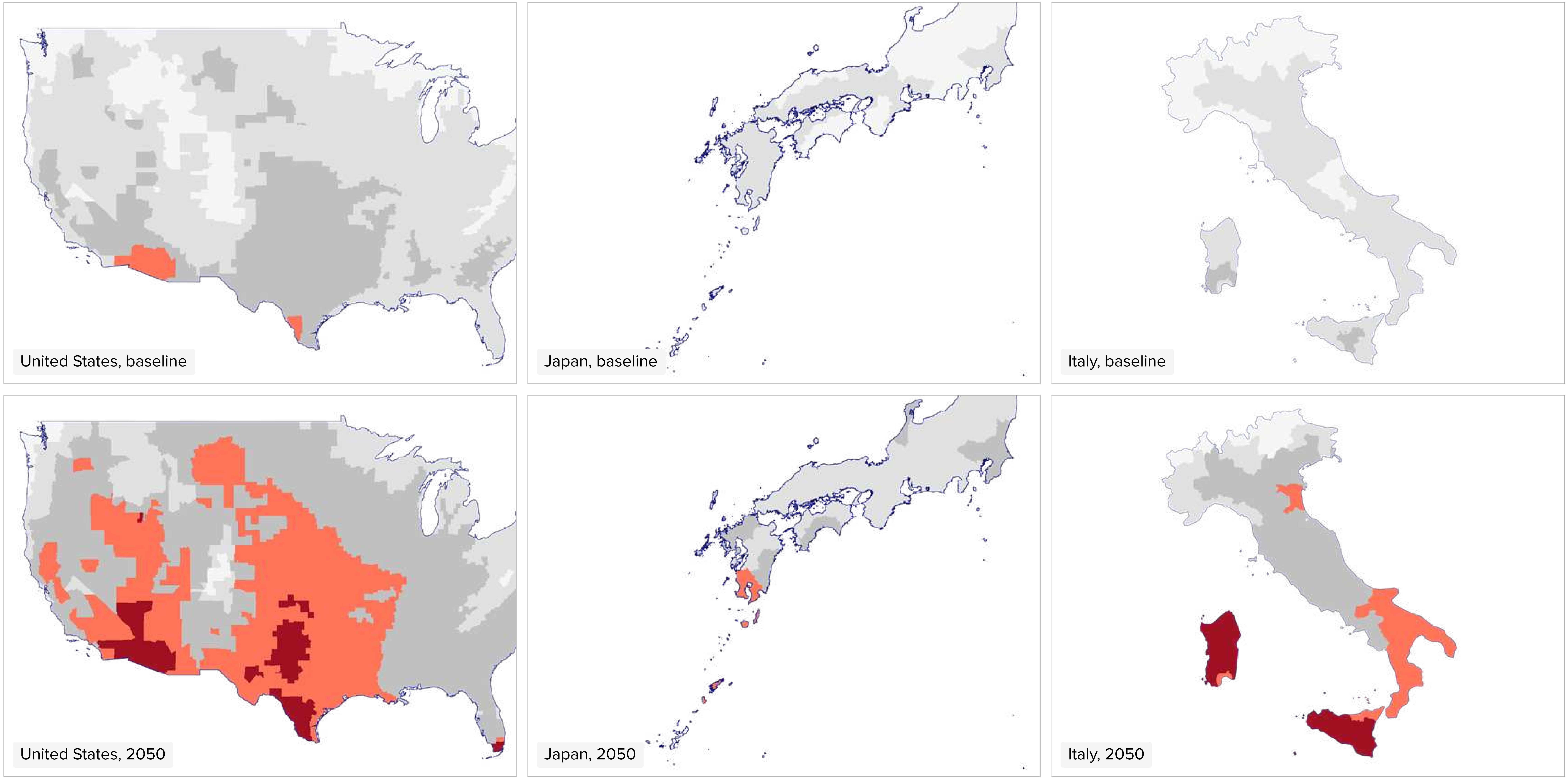


Figure 6. Heatwave severity by country across the study sample. Colours correspond to the heatwave severity thresholds defined in Figure 5. Baseline (top) vs. 2050 (bottom).



Source: LSEG analysis on Sust Global risk projection datasets

Low risk area
< 30d at 25°
30d > 25°
30d > 30°

High risk area
30d > 35°
30d > 40°

Heat, fire and water stress – converging hazards will strain regions.

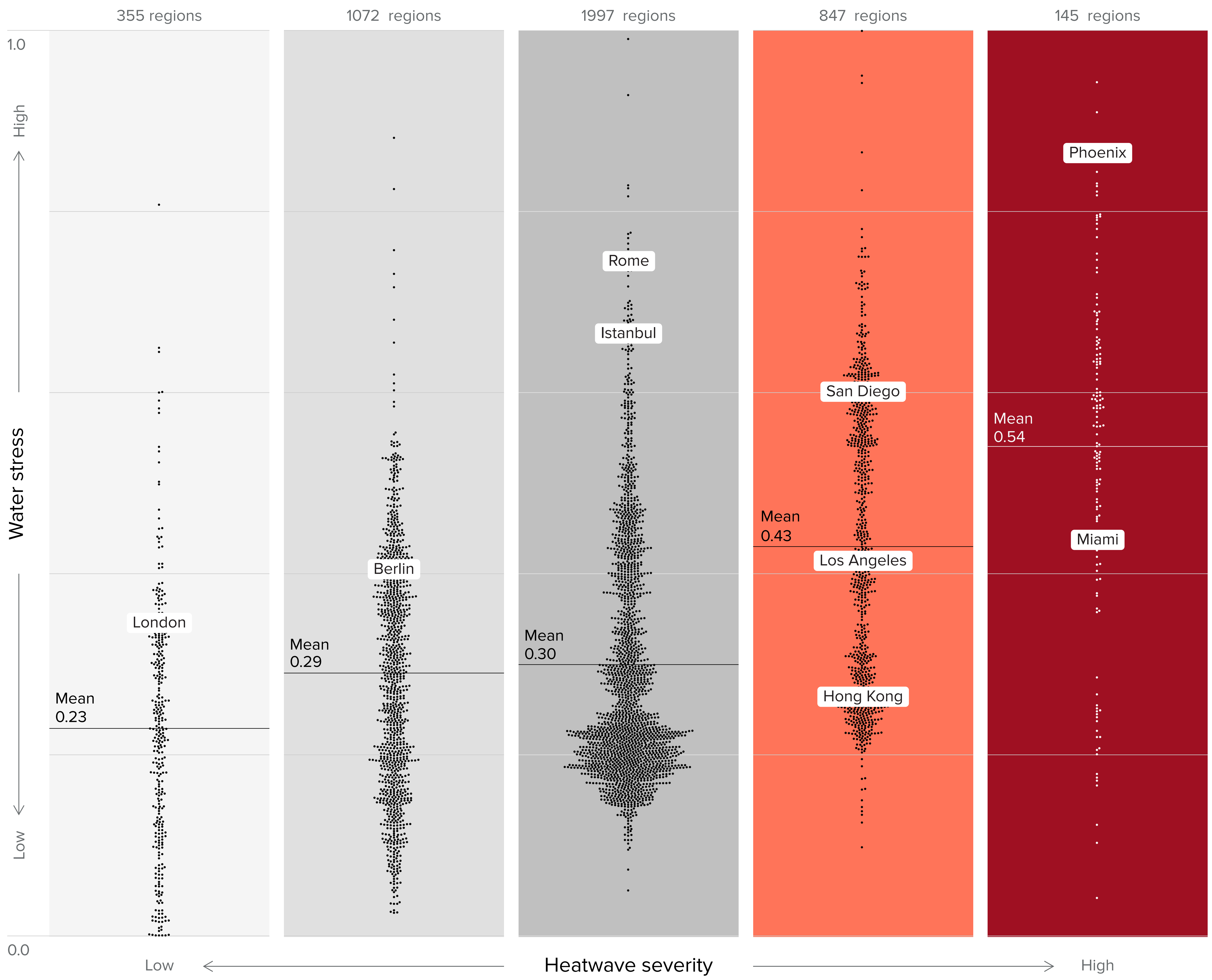
Beyond the direct physical and economic impacts of extreme heat, higher and more variable temperatures are expected to trigger cascading effects, notably exacerbating both water stress and wildfire risk.

In our sample, the number of people living in regions facing high water stress is projected to rise dramatically.[32] By 2050, extreme water stress is forecast to extend to 670 regions across northwest China, the southwestern United States, central and southern Italy, and most of central and western Türkiye. These regions today are home to nearly 244 million people and produce US$6.9 trillion in GDP.

The link between heatwaves and water stress is especially pronounced.

Of the 670 regions projected to experience high water stress by 2050, 424 are also expected to face high or severe heatwaves. This overlap highlights the compounding risks facing communities and economies already under strain (Figure 7).

Figure 7. Water stress plotted against heatwave severity.



Source: LSEG analysis on Sust Global risk projection datasets

Severity bands

< 30d at 25° | 30d > 25° | 30d > 30° | 30d > 35° | 30d > 40° | • Region

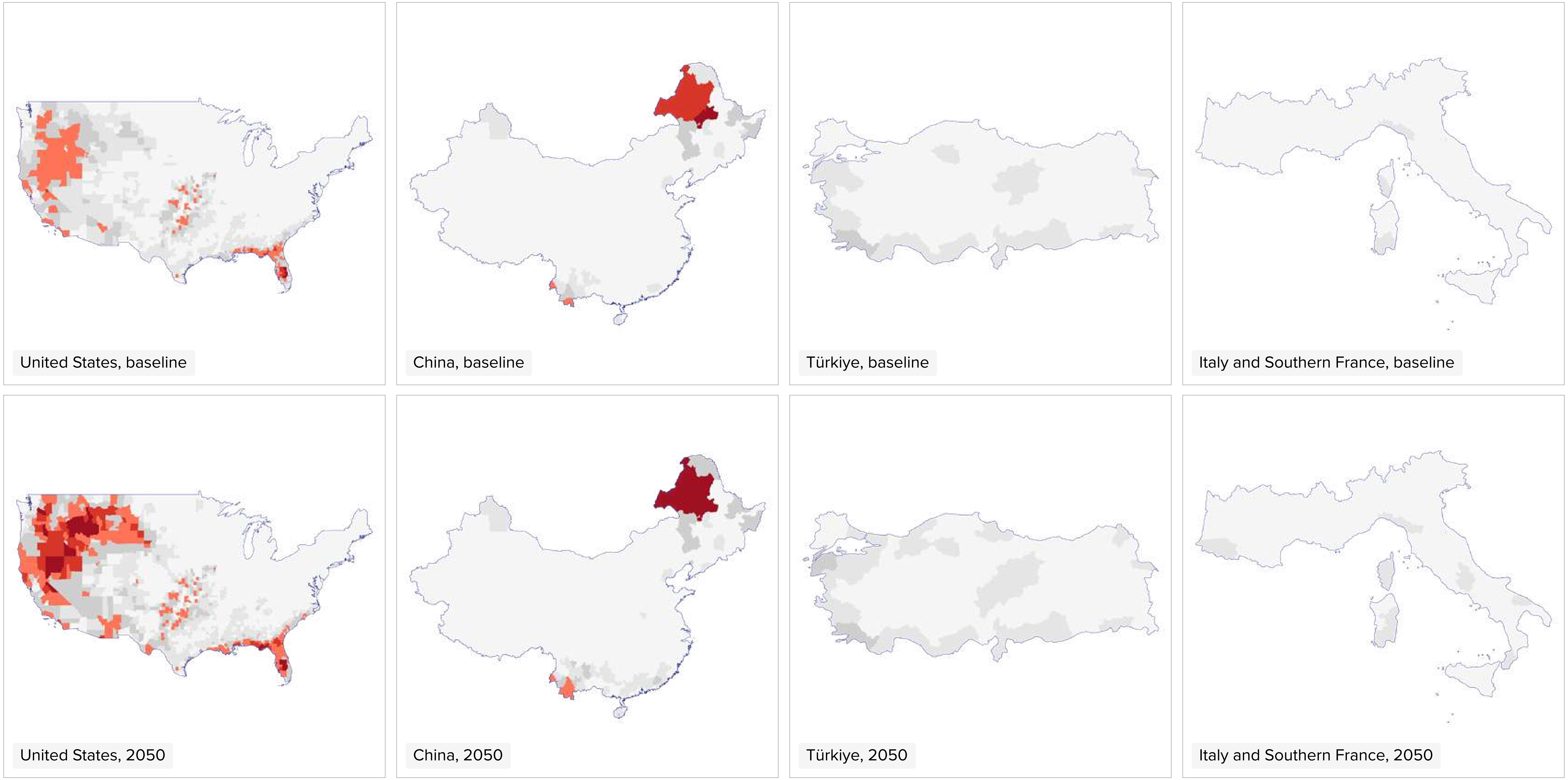
Wildfires – rising exposure in the United States.

Where heatwaves and drought intersect with dense vegetation cover, wildfires also pose increasing risks. In January 2025, wildfires on the outskirts of Los Angeles ranked among the most expensive natural disasters in US history, with total economic losses estimated at US$250–275 billion.[4] In 2025, Spain and Portugal suffered devastating wildfires that helped drive the EU's worst fire season on record, with roughly 1% of the entire Iberian Peninsula burned,[33] consistent with projections that rising global temperatures will drive more frequent and severe fires across southern and central Europe.[34]

Across our eight country sample, regions currently highly exposed to wildfires – defined as an average of 1% or more of a region being burned annually – are home to 27 million people and include significant parts of the western United States, Florida, China's boreal forest–grassland zones in the north, and the forested areas of Yunnan Province in the south (Figure 8). In California alone, some 9.5 million people and US$873 billion in GDP are exposed.

Our projections show that an additional 16.4 million people will be exposed to high wildfire risk. With the exception of China's Pu'er region, these areas are concentrated in the United States. Here large parts of Montana and Wyoming are projected to newly enter the high-risk group. Meanwhile, risk in existing highly exposed regions will continue to intensify, including in major population and economic hubs such as LA County, Orange County, San Diego County, and Santa Clara County (home to Silicon Valley). Counties in Florida, Montana, Nevada, and Idaho are also expected to reach severe exposure levels with over 3% of their surface area projected on average to be burned per year.

Figure 8. Average wildfire exposure for the 1980–2010 baseline period (top) and projected exposure in 2050 (bottom).



Source: LSEG analysis on Sust Global risk projection datasets

Low risk area
0.0–0.2%
0.2–0.5%
0.5–1.0%

High risk area
1.0–2.0%
2.0–3.0%
≥3.0%

Annex

Annex

Socio-economic data sources used in the analysis

China

Population and GDP: China's National and Provincial Statistical Yearbooks, accessed via Honghei Database, 2025;
Population: [Honghei]; **GDP:** [Honghei]

France, Germany, Italy and Türkiye

Population: Eurostat, Population change - Demographic balance and crude rates at regional level (NUTS 3), [eurostat]
GDP: Eurostat, Gross domestic product (GDP) at current market prices by NUTS 3 region, 2025 [eurostat]

Japan

Population and GDP: Japanese Government Statistics, System of Social and Demographic Statistics Prefectural Data Basic Data, 2025
Population: [e-Stat]; **GDP:** [e-Stat]

United Kingdom

Population and GDP: Office for National Statistics, Regional gross domestic product: all ITL regions, 2025 [ONS]

United States

Population: United States Census Bureau, County Population by Characteristics: 2020-2024, 2025 [US Census];
GDP: US Bureau of Economic Analysis, Gross Domestic Product by County and Metropolitan Area, 2023 [BEA]

Annex

Table 1. Regional units included in this analysis.

Country	Regional Unit	No. of regions	Median population	Median GDP (US$)	Median size (km²)
China	Administrative level 2 regions (prefectures)	360	3,159,400	29,390,810,277	12,380
France	Nomenclature of Territorial Units for Statistics (NUTS) level 3	101	528,600	18,910,358,997	5,944
Germany	NUTS level 3	400	156,540	6,719,577,206	802
Italy	NUTS level 3	107	380,900	12,028,481,834	2,444
Japan	Prefectures	47	1,550,000	46,033,056,737	6,095
Türkiye	NUTS level 3	81	542,170	4,399,416,090	7,854
United Kingdom	International Territorial Level 3	182	328,844	14,210,068,365	5,09
United States	Counties	3,138	26,052	1,294,129,525	1,629

Table 2. Definitions of the five hazards in our analysis, along with the number of regions projected to be at high risk from each hazard in 2050.

Hazard	Hazard metric	High Risk threshold	Number of regions at high risk in 2050 (% of total)
Cyclone	Annual probability of a Category 1 or stronger tropical cyclone	0.1	472 (10.7%)
Flooding	Annual probability of ≥0.5 m flood depth across an area	0.033	189 (4.3%)
Heatwave	Combination of annual number of days above the 98th percentile of historical temperatures, and the 98th percentile absolute temperature	30 days above 35°C	992 (22.5%)
Water Stress	Unitless water stress score, combining the Standardised Precipitation Evapotranspiration Index (SPEI) and WRI Aqueduct's water stress scores.	0.5	670 (15.2%)
Wildfire	Average percentage of region burned in one year	0.01	305 (6.9%)

Endnotes

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1 Munich Re, Natural disaster figures for the first half of 2025, 2025 [Munich Re]

2 Swiss Re, Wildfires and severe thunderstorms in the US drive global insured losses to USD 80 billion in first half of 2025, Swiss Re Institute estimates, 2025 [Swiss Re]

3 AXA XL, Los Angeles wildfires; the reinsurance claims picture, 2025 [AXA XL]

4 LA Times, Estimated cost of fire damage balloons to more than US$250 billion, 2025 [LA Times]

5 Reuters, More than 300 people dead in Pakistan after heavy rains, floods, 2025 [Reuters]

6 Sources for GDP and population per country found on page 18. Global total based on World Bank data [World Bank]

7 Physical risk data was provided by Sust Global, a specialist in climate hazard analytics [Sust Global]

8 Projections are based on Lee et al., Future Global Climate: Scenario-Based Projections and Near-Term Information. In Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, 2021 [IPCC]. By contrast, scenarios with stronger climate action project warming of about 1.6–2.1°C over the same period.

9 Based on data from Figure SPM.8 (v20210809) in the Summary for Policymakers of the Working Group I Contribution to the IPCC Sixth Assessment Report [CEDA]

10 S&P Global Ratings, LADWP Power and Water Systems - Ratings Report, 2025 [LADWP]

11 ING, Extreme weather is making major trade routes less reliable, and it's only going to get worse, 2024 [ING]

12 Reuters, Hundreds still stranded, plants closed in India's flood-hit Chennai, 2023 [Reuters]

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14 CNN, Florida's home insurer of last resort is in serious trouble. Will Milton put it over the edge?, 2024 [CNN]

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20 Jiacheng H. and Qiaoyan W., Modulation of global sea surface temperature on tropical cyclone rapid intensification frequency. Environmental Research Communications 3, 041001, 2021. https://doi.org/10.1088/2515-7620/abf39b

21 Seneviratne, S.I., X. Zhang, M. Adnan, W. Badi, C. Dereczynski, A. Di Luca, S. Ghosh, I. Iskandar, J. Kossin, S. Lewis, F. Otto, I. Pinto, M. Satoh, S.M. Vicente-Serrano, M. Wehner, and B. Zhou, Weather and Climate Extreme Events in a Changing Climate. In Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, 2021 [IPCC]

22 These finding are complimented by recent research that found the probability that cyclones will reach or exceed Category 3 has risen by nearly 50% per decade since 1980: Kossin, J., Knapp, K., Olander, T. and Velden, C., Global increase in major tropical cyclone exceedance probability over the past four decades, The Proceedings of the National Academy of Sciences, 117 (22) 11975-11980, 2020. https://doi.org/10.1073/pnas.1920849117

23 Gallagher Re, Natural Catastrophe and Climate Report 2024 [Gallagher Re]

24 UK Environment Agency, Risk of flooding from surface water – understanding and using the map, 2025 [UK Government]

25 We note this is a higher threshold of risk than the 1-in-100 year high risk threshold set by the Federal Emergency Management Agency.

26 This projection is likely to be conservative. Between 1985 and 2015, global human settlements expanded by 85%, but development in high flood-hazard zones increased by 122%. This trend is especially pronounced in East Asia and the Pacific, with China tripling its settlement area in the highest flood-risk zones. This is based on Rentschler, J., Avner, P., Marconcini, M. et al. Global evidence of rapid urban growth in flood zones since 1985. Nature 622, 87–92, 2023. https://doi.org/10.1038/s41586-023-06468-9

27 Reuters, More than 47,000 people died in Europe last year due to heat, report says, 2024 [Reuters]

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29 World Economic Forum, Business on the Edge: Building Industry Resilience to Climate Hazards, 2024 [WEF]

30 Moody's, 2025 European heatwave: An assessment of economic impacts, 2025 [Moody's]

31 Nature, Extreme heat is a huge killer — these local approaches can keep people safe, 2024 [Nature]

32 Our definition of high risk of water stress is 0.5 and above on a combination of the Standardised Precipitation Evapotranspiration Index (SPEI) and WRI Aqueduct's water stress scores.

33 BBC News, Spain and Portugal wildfires drive worst EU season on record, 2025 [BBC]

34 The Copernicus Climate Change Service, Wildfires, 2023 [Copernicus]

Legal

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About LSEG

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