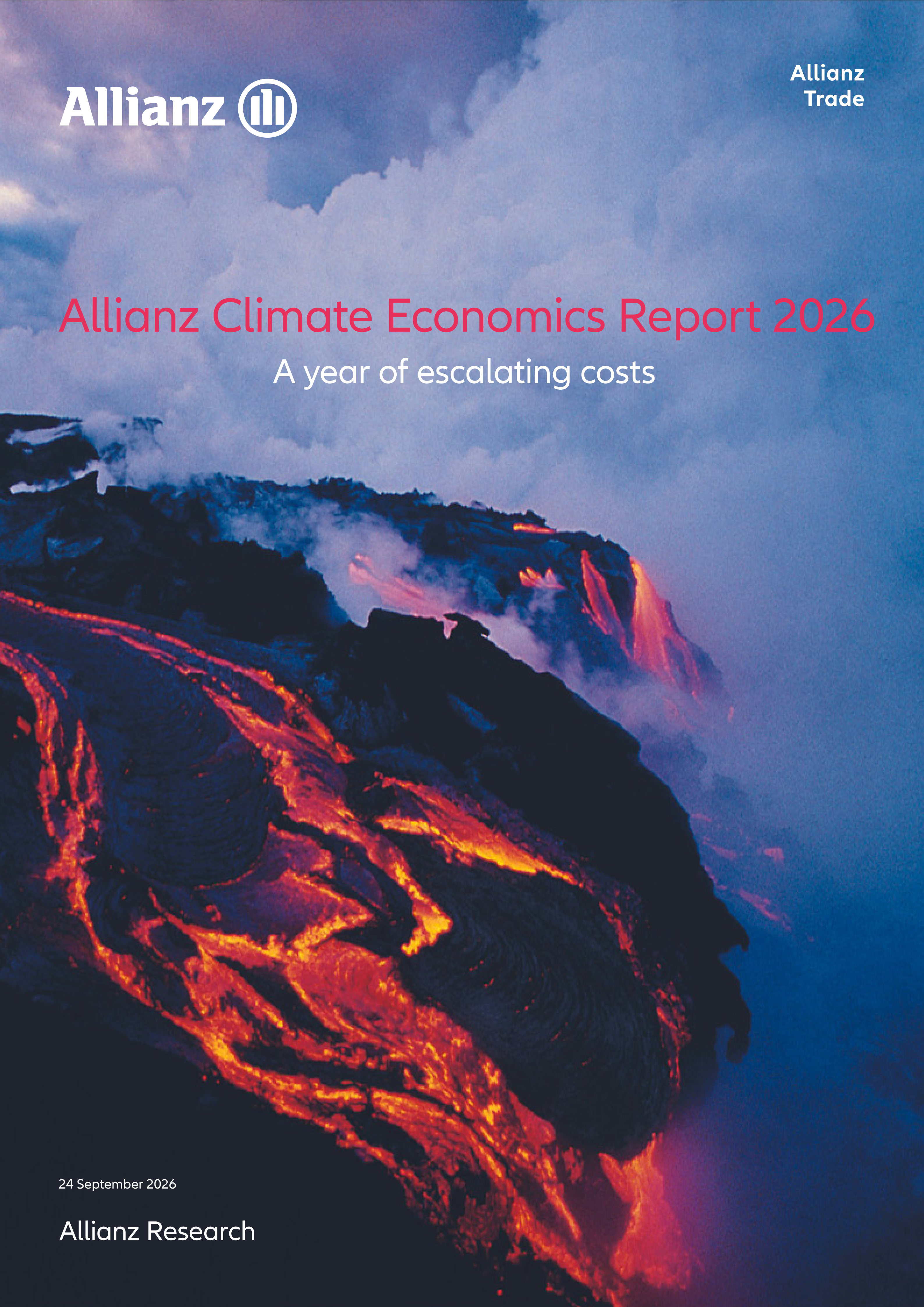

Allianz

Allianz Trade

Allianz Climate Economics Report 2026

A year of escalating costs

24 September 2026

Allianz Research

Content

Executive Summary

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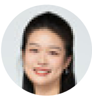


Mengxi Wang
Research Assistant

- **Europe's 2026 heatwaves carry an estimated annual output cost of EUR113bn (USD128bn) across 30 countries, a substantial economic burden from one hazard alone.** This corresponds to around 0.46% of their combined projected GDP, and roughly 60% of the global extreme-weather losses recorded in 2025. The estimate uses each country's most intense five-day heat episode between June and August, adjusted for humidity and population exposure, to assess the effect on annual growth. Italy, Germany and France account for almost two-thirds of the estimated losses, while Cyprus faces the largest growth reduction, at 1.74 percentage points. Humidity helps explain why the highest temperatures do not always produce the greatest economic strain: Italy's more humid heat episode is associated with a larger estimated growth loss than Hungary's hotter but drier conditions.

- **Europe was one of several regions hit hard by extreme weather in 2026, with a fuller picture of the year's economic losses expected in early 2027.** Major floods affected Madagascar, Malawi, Mozambique, South Africa, Zambia and Zimbabwe, while Tunisia and Morocco also suffered serious flooding. Indonesia faced an active wildfire season, and flooding along the Nepal–China border left estimated reconstruction needs of USD4–5bn. Peru declared two emergencies: one following February's floods and another in July to prepare for rainfall associated with El Niño. Assessing the combined effects on GDP growth and inflation will require more complete data on the damage and disruption to economic activity.

- **Allianz Research is launching the Allianz Climate Economics Report (ACE), an annual flagship examining how climate change affects economic growth and inflation.** Each edition reviews the previous year, assesses current developments and considers the outlook for the year ahead. The analysis draws on ClimRad (Climate Data Radar), a proprietary platform developed by Allianz Research and Earthian AI. Alongside climate data and catastrophe loss records, ClimRad provides damage functions developed in-house to estimate how temperature changes, heat stress and drought affect GDP growth, and how temperature changes influence headline and food inflation. This allows ACE to examine costs that extend beyond damage to physical assets and insurance claims, including losses in production and pressures on household purchasing power. Readers can explore national climate data and test their own economic scenarios through the ClimRad platform.

- In 2025, climate risk became more geographically differentiated, with the largest physical shifts not always translating into the greatest current economic burden. Northern and Eastern Europe recorded some of the largest temperature anomalies, led by Norway at +3.74°C versus +1.38°C globally. To separate structural climate shifts from the severity of current conditions, the

[1] The results in this paper are produced using ClimRad, a proprietary climate analysis platform developed by Allianz Research in collaboration with EarthianAI thanks to Shayan Shokri and Greta Kudzmanaite.

Allianz Climate Economics Report uses a Climate Change Score, measuring departures in temperature, heat, drought and precipitation from historical norms, and a Climate Stress Score, capturing current heat, drought and heavy rainfall. Nigeria, the Philippines, Malaysia, Brazil, Côte d'Ivoire, Morocco and Turkey rank high on both. Globally, extreme weather caused USD210bn in economic losses in 2025, down 32% from USD307bn in 2024 but still 20% above the 2000–2019 average. Measured against the size of each economy, the burden was equally uneven: the US recorded the largest absolute losses at USD118.5bn, equivalent to 0.4% of GDP, while Jamaica's losses reached 39.4% of GDP. Losses were equivalent to 2.9% of GDP in Thailand and 0.8% in Portugal, four times its historical average.

- **The disasters of 2025–2026 exposed a widening adaptation gap: countries with prevention systems, pre-arranged financing and clear response mechanisms were better positioned than those still relying mainly on post-disaster relief.** Australia, Chile and Canada drew on established wildfire programs combining monitoring, community preparedness and investment before the fire season. Morocco's flood response similarly benefited from earlier investment in warning systems and risk mapping, supported by a World Bank-backed resilience program receiving USD408mn since 2016. Honduras illustrates a more targeted model, using forecast-triggered financing to release assistance before impacts materialized. Elsewhere, the response remained more reactive: Texas strengthened warnings and protective infrastructure after flooding, while European initiatives expanded heat, wildfire and water-resilience policies, including an EIB water-resilience facility of EUR15bn for 2025–2027. By contrast, Mexico and Bolivia remained focused largely on relief and reconstruction, Indonesia on wildfire suppression and Argentina combined major emergency firefighting with cuts to permanent wildfire-management capacity. The 2025–2026 experience shows that resilience depends less on emergency spending after disaster strikes than on sustained prevention, pre-arranged financing and clear responsibility before it does.

- **Looking ahead, a very strong El Niño is already forming and could cost the world USD451bn, with most of the damage landing in 2027.** Expected to peak towards the end of 2026 and persist into early 2027, El Niño would add a temporary boost to human-induced warming. Our sensitivity analysis, calibrated on country temperature responses during the 2023–2024 El Niño episode, estimates a net output loss of USD451bn in 2027, equivalent to 0.24% of projected GDP across 144 economies. China, the US and India account for almost 60% of gross losses, at USD147bn, USD91bn and USD50bn, respectively, while South Korea and Indonesia face larger proportional declines of 0.51% and 0.41% of baseline GDP. For the EU-27, the net loss reaches USD24bn, or 0.09% of GDP. The shock would also reach households through prices: weighting country results by GDP at purchasing power parity gives average increases of 0.42 percentage points (pp) in headline inflation and 0.65pp in food inflation. The corresponding EU-27 increases are 0.31pp and 0.50pp. These results quantify temperature sensitivity only and exclude additional losses from floods, droughts, wildfires and other extreme events.

Allianz Climate Economic Report

As climate change accelerates, adaptation is becoming an urgent priority alongside efforts to reduce emissions. The Allianz Climate Economic Report is an annual flagship report that tracks climate risk developments and examines their economic implications. Each edition takes a three-year perspective, reviewing the previous year's climate conditions and losses, analysing major developments in the current year and assessing the outlook for the next. Linking physical climate risks to their macroeconomic effects, particularly on GDP growth and inflation, is a central pillar of the report. Assessing these costs provides evidence to guide adaptation planning and investment decisions, helping policymakers and businesses address immediate risks while building long-term resilience. The Allianz Climate Economics Report is based on the ClimRad tool developed by Allianz Research and Eathian AI (Box 1).

Box 1: ClimRad – A climate economics tool

ClimRad is a climate macroeconomic platform developed through a collaboration between Allianz Research and Earthian AI. It brings together climate indicators, economic damage functions and natural catastrophe data to help economists, policymakers and businesses assess climate risks and their economic implications, providing evidence for adaptation planning.

The platform provides national and subnational data on temperature, heat stress, drought and precipitation from 1950 to the current quarter on a monthly basis, alongside a flood dataset currently covering EU countries from 2015–2024. Interactive maps and historical comparisons allow users to examine recent conditions and changes over time. Climate inputs include the Copernicus ERA5 and ERA-Land datasets. For the economic modelling, climate exposure is weighted using GPWv4 population data, bringing the assessment closer to the conditions people experience.

ClimRad translates climate conditions into economic effects through damage functions developed and estimated in-house. The growth model builds on Callahan and Mankin (2022) and Kotz et al. (2021, 2022). It combines climate inputs with reported economic accounts from DOSE, using 31,563 annual observations across 1,470 regions in 78 countries from 1990–2020. The model estimates how humid heat, annual temperature changes and drought affect annual real GDP per capita growth, accounting for persistent regional differences and common annual shocks. Heat exposure combines temperature and humidity during the hottest five-day period, allowing the estimated economic response to vary with the intensity of heat stress.

An interactive simulator on the ClimRad website makes these functions accessible to users without coding or modelling expertise. Users can select a country and specify climate conditions to estimate the associated change in annual growth relative to that country's baseline temperature. The platform also provides estimates of temperature effects on headline and food inflation. These simulations support analysis of observed events and hypothetical scenarios; their results depend on the climate assumptions entered.

ClimRad also includes a global natural catastrophe database compiled by Earthian AI, covering individual events since 2000. It records total economic losses and insured losses where available, allowing users to compare events across countries and hazards and assess the share of losses left uninsured. These records complement the modelled growth effects by documenting the economic and insurance costs of reported disasters.

Link to ClimRad : https://climrad.earthianai.com/

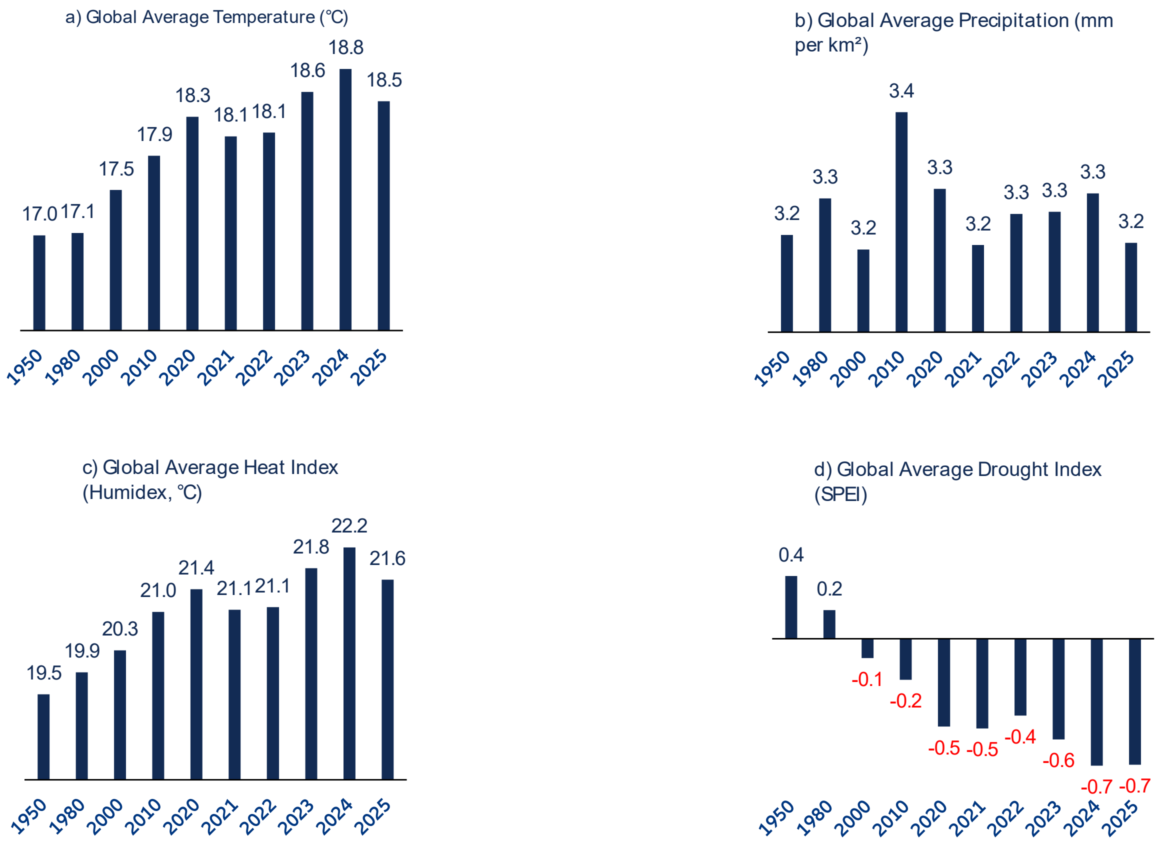
Global climate trends in 2025

Global temperatures eased in 2025 but remained far above their historical level (Figure 1a). Global average temperatures declined from 18.8°C in 2024 to 18.5°C in 2025. Relative to the 1950–1970 baseline, this corresponds to an anomaly of +1.38°C and remains the third-highest reading since 1950. The decline partly reflects the fading influence of the 2023–2024 El Niño and the return to neutral conditions during 2025. Looking beyond annual fluctuations, the mean anomaly increased from +1.08°C in 2020–2022 to +1.53°C in 2023–2025. The estimated rate of warming also rose from around 0.28°C per decade between 1980 and 2010 to approximately 0.5°C per decade thereafter. The moderation in 2025 therefore does not alter the acceleration visible in the longer-term series.

Global average precipitation remained broadly stable (Figure 1b). It stood at an average of 3.2 mm per Km^2 in 2025[2], the same level as in 1950 and within the narrow 3.2–3.4 mm per Km^2 range observed across the selected years. Measured against the 1950–1970 baseline, precipitation anomalies have fluctuated between –0.03 and +0.22 without establishing a persistent trend. This global stability should be interpreted carefully. An annual average does not capture where precipitation occurs, how it is distributed over the year, or whether it falls in short and intense episodes. Previous research finds increasing precipitation variability across much of the global land area and stronger precipitation extremes in both dry and wet regions (Donat et al., 2016[3] ; Pendergrass et al., 2017[4]). A stable global average can therefore coexist with regional rainfall deficits and more intense precipitation events.

[2] Measured as total yearly precipitation per country related to its area
[3] More extreme precipitation in the world's dry and wet regions | Nature Climate Change
[4] Precipitation variability increases in a warmer climate | Scientific Reports

Figure 1: Global climate development 1950 – 2025



Sources: ClimRad, Allianz Research

Economic losses from extreme weather declined in 2025 but remained above their pre-2020 average (Figure 2a). Losses fell from USD307bn in 2024 to USD210bn in 2025, a decline of 32%. This decline may partly reflect the relatively lower temperatures recorded in 2025 than in 2023 and 2024, as warmer-than-average years tend to be associated with more frequent extreme weather events (Box 2). The 2025 total was nevertheless 20% above the 2000–2019 average of USD176bn. Every year since 2020 has exceeded that reference level, while average annual losses over 2020–2025 reached USD271bn, 54% above the earlier period. Annual totals are highly sensitive to a small number of major catastrophes: the January 2025 Los Angeles wildfires alone generated close to USD60bn, equivalent to 28% of the year's recorded losses. The decline in 2025 should therefore not be interpreted as evidence that the underlying hazard has diminished.

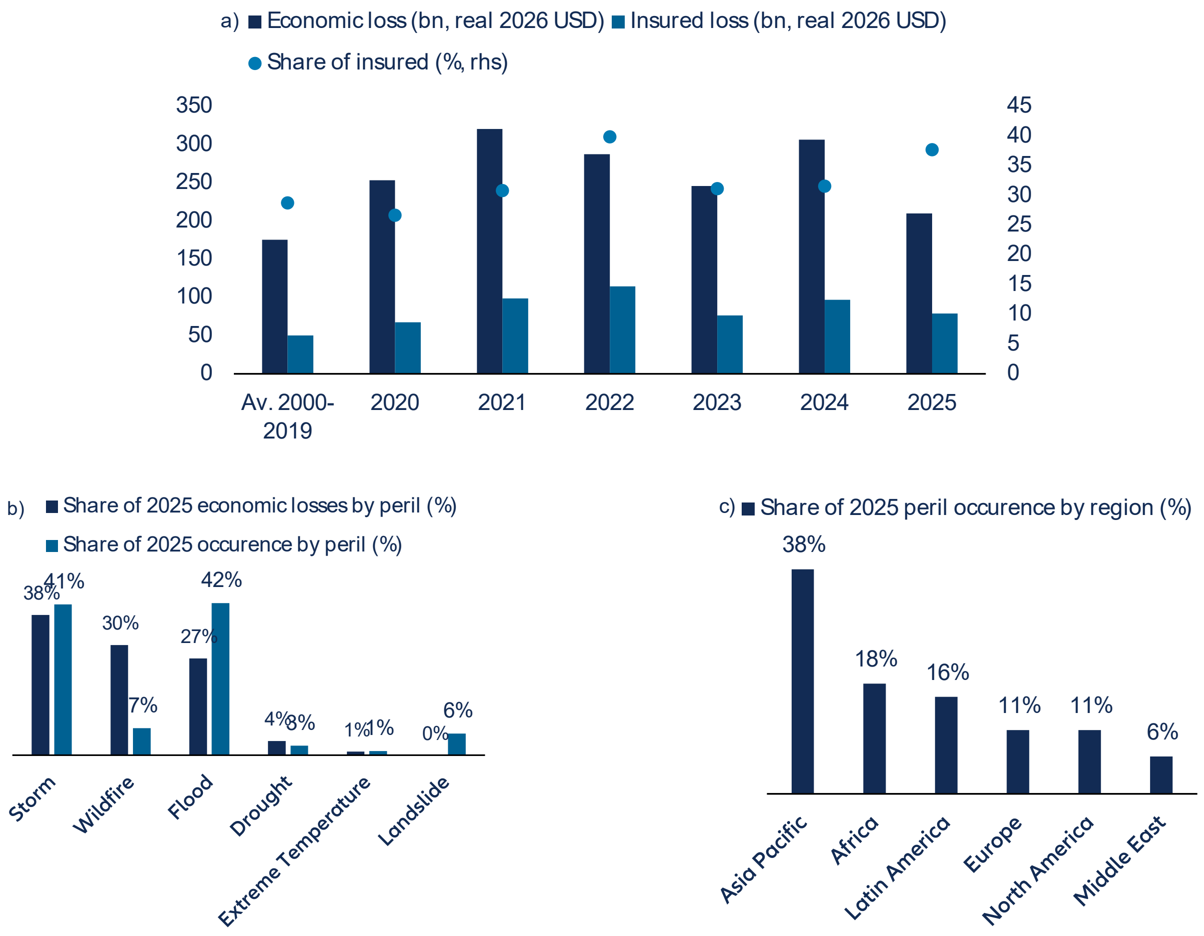
Insured losses declined less sharply, raising the share of economic losses covered by insurance (Figure 2a). Insured losses fell by 18%, from USD97bn in 2024 to USD79bn in 2025, while the insured share increased from 32% to 38%. Average insured losses reached USD89bn a year over 2020–2025, 76% above the 2000–2019 average of USD50bn. This exceeded the corresponding 54% increase in economic losses. Nevertheless, uninsured losses also rose substantially, averaging USD182bn a year over 2020–2025 compared with USD125bn during 2000–2019, an increase of 45%.

The 2025 protection gap of USD131bn was close to the historical average, but this mainly reflects the lower total loss recorded that year rather than a sustained narrowing of the gap. Nor does the increase in the insured share necessarily indicate a general expansion in coverage, since the proportion insured also depends on the geographical and peril composition of annual losses.

Event frequency and economic severity differed markedly across perils in 2025 (Figure 2b). Floods accounted for 42% of the 271 events in the sample and storms for another 41%. Together, they represented 83% of recorded events but 65% of economic losses. Wildfires showed the opposite pattern: they accounted for only 7% of events but generated 30% of reported losses, largely because of the Los Angeles fires. Landslides represented 6% of events, but almost none of the recorded losses. This is more likely to reflect incomplete loss information, particularly for smaller events, than an absence of economic damage.

The geographical distribution reveals a similar divergence between event occurrence and recorded losses (Figure 2c). Asia Pacific accounted for 38% of events, followed by Africa at 18% and Latin America at 16%. Europe and North America each represented 11%, while the Middle East accounted for 6%. Economic losses were distributed very differently. North America generated approximately 58% of reported losses from 11% of events, whereas Africa accounted for 18% of events but less than 1% of losses. This divergence reflects differences in asset values, vulnerability and the completeness of loss reporting rather than just hazard intensity.

Figure 2: Extreme weather events: losses, protection gap and 2025 composition



Sources: ClimRad, EarthianAI, Allianz Research

Box 2: Higher likelihood of extreme weather events during warmer years

The analysis in Figure 3 examines whether weather-related disasters occur more frequently during relatively warm years than during relatively cool years. The comparison is conducted within countries rather than against a single global temperature threshold. For each country, annual temperature anomalies over 1999–2025 are divided at the country-specific median. A year is classified as warm when its anomaly is above that median, and as cool when it is equal to or below it. This approach creates a broadly balanced comparison and avoids defining almost all recent years as warm simply because temperatures have risen over time. For each region and hazard, the chart reports the ratio between event frequency in warm years and event frequency in cool years. A value above one indicates higher frequency in warm years, a value below one indicates lower frequency, and a value close to one suggests little difference. Earthquakes are shown as a placebo because their occurrence should not be affected by temperature.

The results indicate that warmer years are associated with more frequent weather-related disasters, although the relationship differs across hazards and regions. Drought provides the most consistent signal. Its frequency ratio ranges from 1.26 to 1.31 across all regions, meaning that drought events occur around 26% to 31% more often in warmer years. Wildfire frequency also rises strongly in several regions, particularly Oceania, where the ratio reaches 2.24, followed by the Americas (central and south America) at 1.97 and Asia at 1.70. The relationship is weaker in North America and absent in Africa and Europe.

Extreme-temperature events are more heterogeneous. Their frequency rises markedly in Oceania, Africa and Europe, remains broadly unchanged in Asia, and falls in the Americas and North America. Storm frequency increases in the Americas, North America and Europe, while flood occurrence remains close to parity in most regions. Landslides show no common regional pattern.

Figure 3: Frequency of extreme weather events in warmer versus cooler years, by region and hazard (1999–2025)

Continent	Drought	Extreme Temp.	Flood	Landslide	Storm	Wildfire	Placebo* Earthquake
Africa	1.29	1.54	1.08	2.1	0.86	0.92	0.59
Americas	1.29	0.31	0.97	0.81	1.38	1.97	0.84
Asia	1.31	0.99	1.14	0.87	1.01	1.7	1.05
Europe	1.29	1.47	0.9	1.05	1.25	0.91	1.46
N. America	1.26	0.61	1.02	0.66	1.33	1.46	1
Oceania	1.29	2.15	0.9	1.35	0.96	2.24	0.75

>2.5 1.0 <0.5

Event frequency: Warmer versus cooler years

Where:

>1.0 = events happen more often in a country's warmer-than-median years than in its cooler years

1.0 = no difference between warmer and cooler years

<1.0 = events happen less often in warmer years than in cooler years

*** Placebo: earthquakes (no climate link); near 1.0 return ratios confirm non-manufactured signals**

Sources: ClimRad, EarthianAI, Allianz Research

Country-level climate risk in 2025

Northern and Eastern European countries have moved sharply up the global temperature-anomaly ranking since 1980. Figure 4 shows the positions of the 52 focus countries in 1980, 2000 and 2025, measured against their respective 1950–1970 averages. Countries are ranked across the full dataset, with first place indicating the largest anomaly, although only the focus countries are displayed[5]. Magenta lines mark gains of at least five places, cyan lines mark equivalent declines, and dark blue denotes smaller changes. The anomaly values beside the labels shows that losing rank does not necessarily mean cooling, as a country can continue to warm while others warm faster.

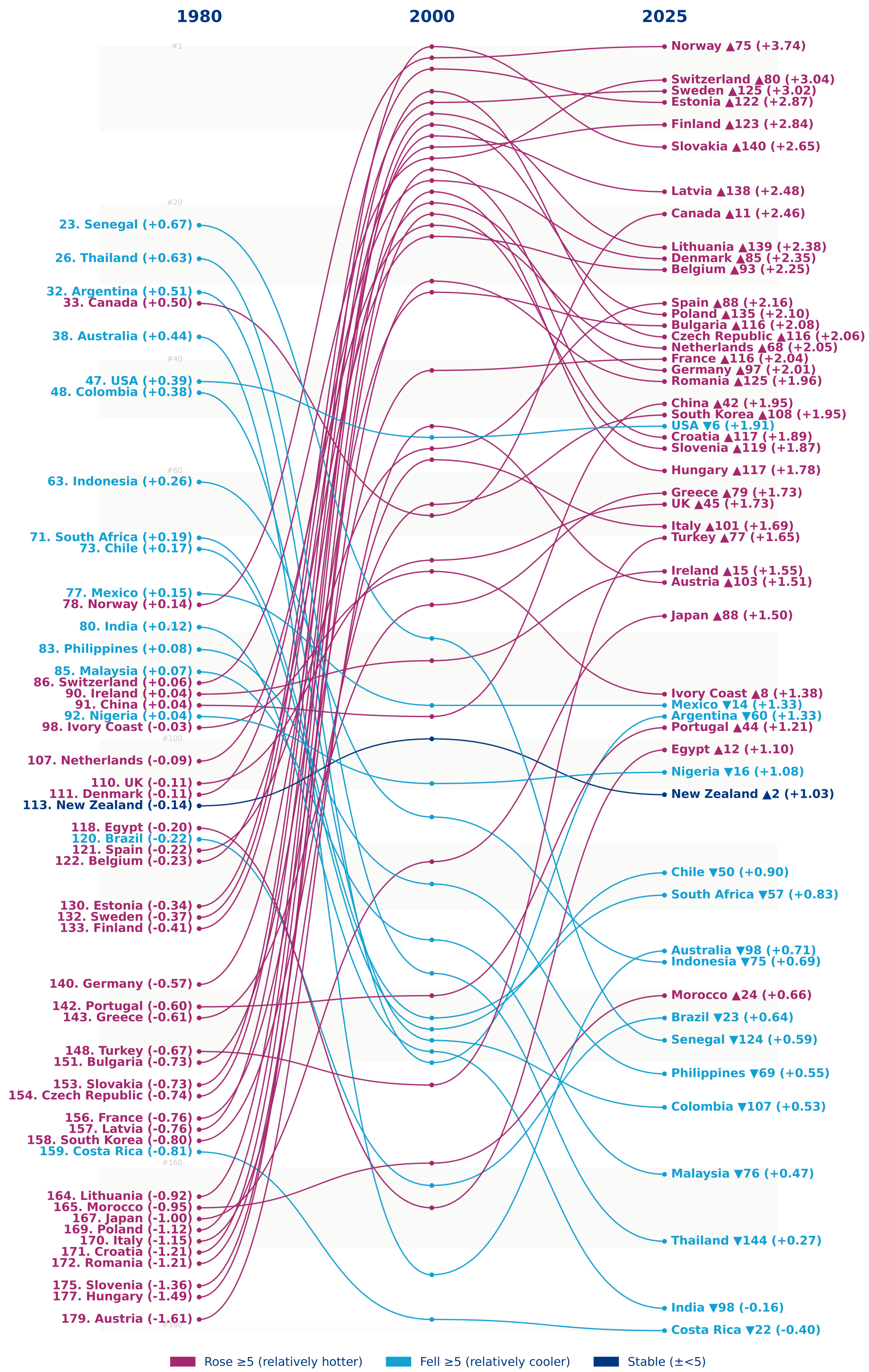
Slovakia climbs 140 places, followed by Lithuania and Slovenia (139), Latvia (138) and Poland (135). Sweden, Romania, Finland and Estonia each gain more than 120 places. Norway has the largest anomaly among the focus countries in 2025, at +3.74°C, placing it third globally, up from 78th in 1980. Switzerland, Sweden, Estonia, Finland and Slovakia all exceed +2.6°C. Much of this regional shift was already visible in 2000, although individual countries followed uneven paths.

Several mechanisms help explain Europe's position. Land warms faster than oceans, while the retreat of snow and sea ice amplifies warming at northern latitudes. Declining air pollution has also removed some of the cooling influence of sulphate aerosols. Nabat et al. (2014) estimate that aerosol changes accounted for 23 ± 5% of simulated surface warming across the Euro-Mediterranean region between 1980 and 2012, a period overlapping much of the chart's observation window.[6] Atmospheric circulation provides another influence, particularly on summer extremes. Vautard et al. (2023) attribute 0.8°C of the 3.4°C increase in Western European summer heat extremes per degree of global warming to circulation changes[7]. These findings help explain the regional pattern observed in Figure 4.

The largest falls in rank occur mainly among tropical and Southern Hemisphere countries, but they reflect different temperature trajectories. Thailand loses 144 places, Senegal 124, Colombia 107 and Australia 98. Thailand's anomaly is lower at the selected endpoints, falling from +0.63°C in 1980 to +0.27°C in 2025. Indonesia and Australia follow a different path: their anomalies rise from +0.26°C to +0.69°C and from +0.44°C to +0.71°C, respectively, yet they lose 75 and 98 places because anomalies increase more rapidly elsewhere. A decline in rank can therefore reflect either a lower anomaly in 2025, or continued warming at a slower rate than in other countries.

5 For readability, the main text reports results only for OECD countries and selected large economies from each region.
6 Contribution of anthropogenic sulfate aerosols to the changing Euro- Mediterranean climate since 1980 - Nabat - 2014 - Geophysical Research Letters - Wiley Online Library
7 Heat extremes in Western Europe increasing faster than simulated due to atmospheric circulation trends | Nature Communications

Figure 4: Temperature-anomaly rank movement (1980-2025)



Sources: ClimRad, Allianz Research

Ocean influence helps explain part of this pattern, particularly among island and coastal economies such as Indonesia. Observational evidence shows that continental surfaces have warmed more rapidly than oceans, reflecting differences in moisture availability and the atmospheric response to ocean warming (Byrne and O'Gorman, 2018)[8]. This mechanism may moderate temperature changes in strongly maritime climates, but it does not provide a common explanation for all the countries moving down the ranking.

The ranking also reflects the climate conditions prevailing in 2025. Weak La Niña conditions were present early in 2025, ENSO-neutral conditions subsequently became established, and borderline La Niña conditions emerged by November (WMO, 2025)[9]. ENSO affects surface temperatures through changes in atmospheric circulation, rainfall and cloud cover, with particularly strong teleconnections across tropical regions and the Southern Hemisphere. Its influence nevertheless extends across the global snapshot and is not confined to countries moving down the ranking.

Figure 5 combines two complementary indicators of country-level climate risk in 2025. The Climate Change Score (CCS) measures the extent to which current conditions differ from the 1950–1970 climate baseline. It combines anomalies in mean temperature, extreme heat, drought and precipitation and therefore captures the strength of the recent climate-change signal. The Climate Stress Score (CSS) measures the absolute severity of current heat, drought and precipitation relative to physically meaningful thresholds. The CCS indicates how rapidly a country's climate is moving away from its historical conditions, while the CSS indicates how stressful those conditions are in 2025. The two indicators are presented on a common scale from zero to one, with the dashed lines at 0.5 separating higher and lower scores. The detailed construction and all countries results of both indicators are provided in Appendices A1 and A2.

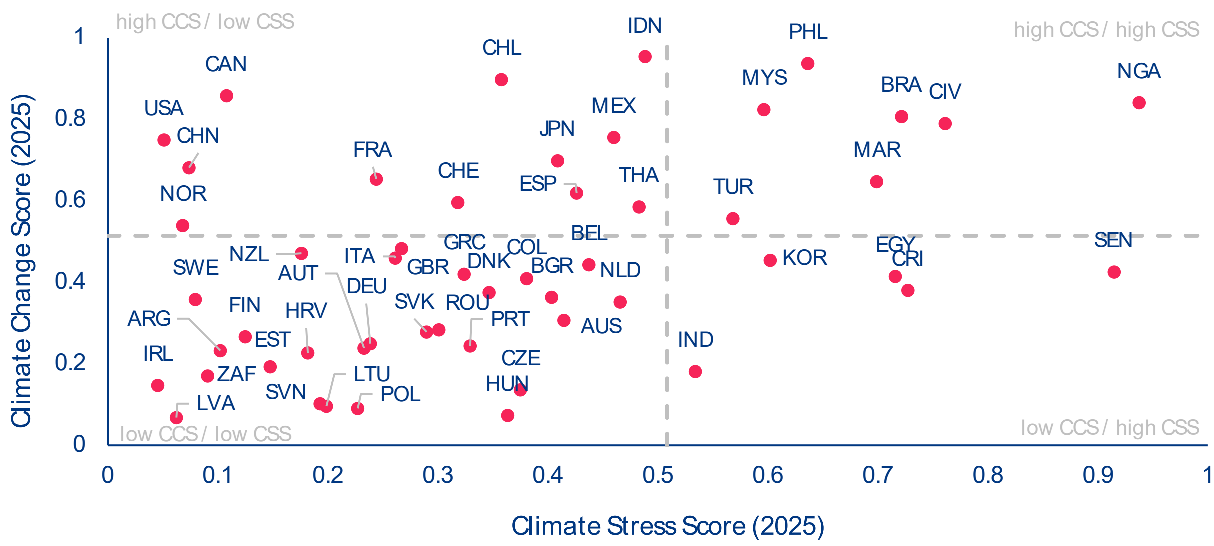
The upper-right quadrant identifies countries where strong historical change coincides with high current stress. Nigeria records the highest CSS among the countries assessed, at 0.94, together with a CCS of 0.84. The Philippines shows the reverse configuration: its CCS reaches 0.94, while its CSS remains high at 0.64. Malaysia, Brazil, Côte d'Ivoire, Morocco and Turkey also fall within this quadrant. These countries face the most immediate combination of risks because present conditions are already severe and continue to diverge substantially from their historical climate.

The other two upper quadrants show why the indicators should be interpreted jointly. Indonesia records the highest CCS in the sample, at 0.95, but its CSS remains just below the 0.5 threshold. Canada, Chile, the United States, Mexico, Japan, France and China follow a similar pattern. Their 2025 climate conditions represent a marked departure from the historical baseline, even where the absolute level of climate stress remains comparatively contained. Risk assessments based only on current severity would understate the speed of change in these countries. Senegal, Egypt, Costa Rica, South Korea and India show the opposite configuration. Their CSS exceeds 0.5 despite a lower CCS. In India, for example, the CSS reaches 0.53 while the CCS is only 0.18. This indicates substantial current stress that is less unusual relative to the country's own historical conditions. A low change score therefore does not imply low exposure; it may instead reflect a climate that was already structurally hot, dry or precipitation-intensive.

Most European countries lie in the lower-left quadrant, including Germany, Austria, Poland, Portugal and the Nordic and Baltic economies. Their 2025 scores remain below 0.5 on both dimensions. This should be interpreted as lower relative risk within the framework, rather than an absence of climate risk. The figure captures conditions in a single year, and countries close to either threshold may shift quadrants as heat, drought and precipitation conditions evolve.

[8] Trends in continental temperature and humidity directly linked to ocean warming | PNAS
[9] El Niño/La Niña Update (November 2025)

Figure 5: Country-level climate risk in 2025



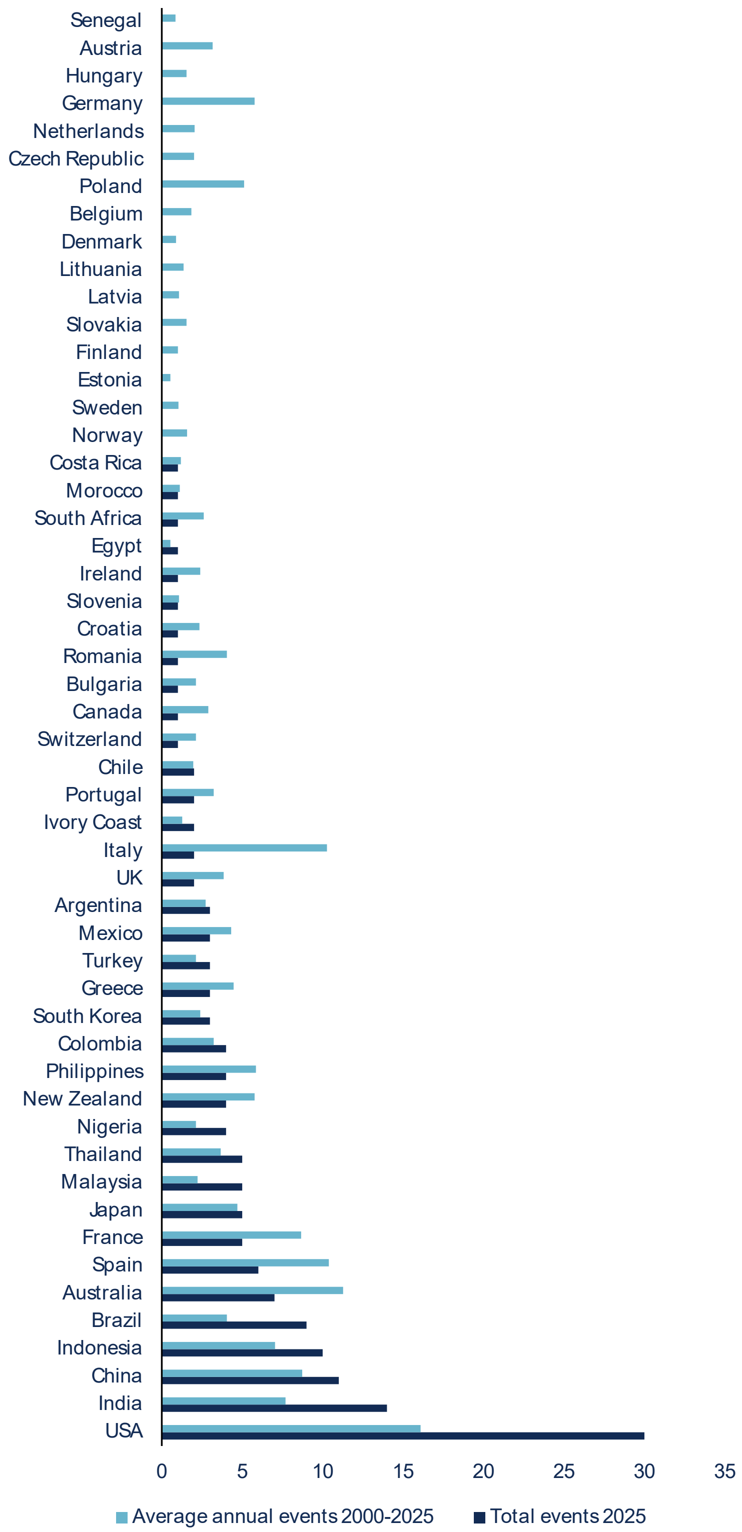
Sources: ClimRad, Allianz Research

Recorded extreme-weather activity in 2025 was concentrated in a relatively small group of countries (Figure 6, see Appendix A3 for the full list of countries)[10]. The United States stands apart, with 30 recorded events compared with an annual average of around 18 since 2000. India follows with 14 events, against a historical average of 10, while China records 11 compared with nine and Indonesia 10 compared with seven. The increase is also notable in Brazil, where nine events were recorded against an average of four, and Malaysia, with five against two. These figures show that 2025 was unusually active in several large and highly exposed economies, although the difference from the historical average varies considerably across countries.

The country totals also conceal very different combinations of hazards. In the United States, the 2025 count is dominated by storms, which account for 21 of the 30 events, alongside five floods, three wildfires and one drought. India's 14 events comprise seven storms, five floods and two landslides. Flooding is the main driver in Indonesia, accounting for seven of its 10 events, while China records a more even combination of storms, floods and landslides. Brazil's total includes storms, floods, a wildfire and a landslide.

High event activity was not universal. Australia records seven events in 2025, below its historical annual average of around 11. Spain records six compared with an average of 10, France five compared with nine and Italy two compared with 10. No qualifying event is recorded for Germany or Poland in 2025, despite historical averages of approximately six and five events a year, respectively. These differences reflect the strong year-to-year variability of extreme weather and should not be interpreted as evidence that the underlying hazards have diminished.

Figure 6: Extreme weather event occurrence per country in 2025



Sources: ClimRad, Earthian, Allianz Research

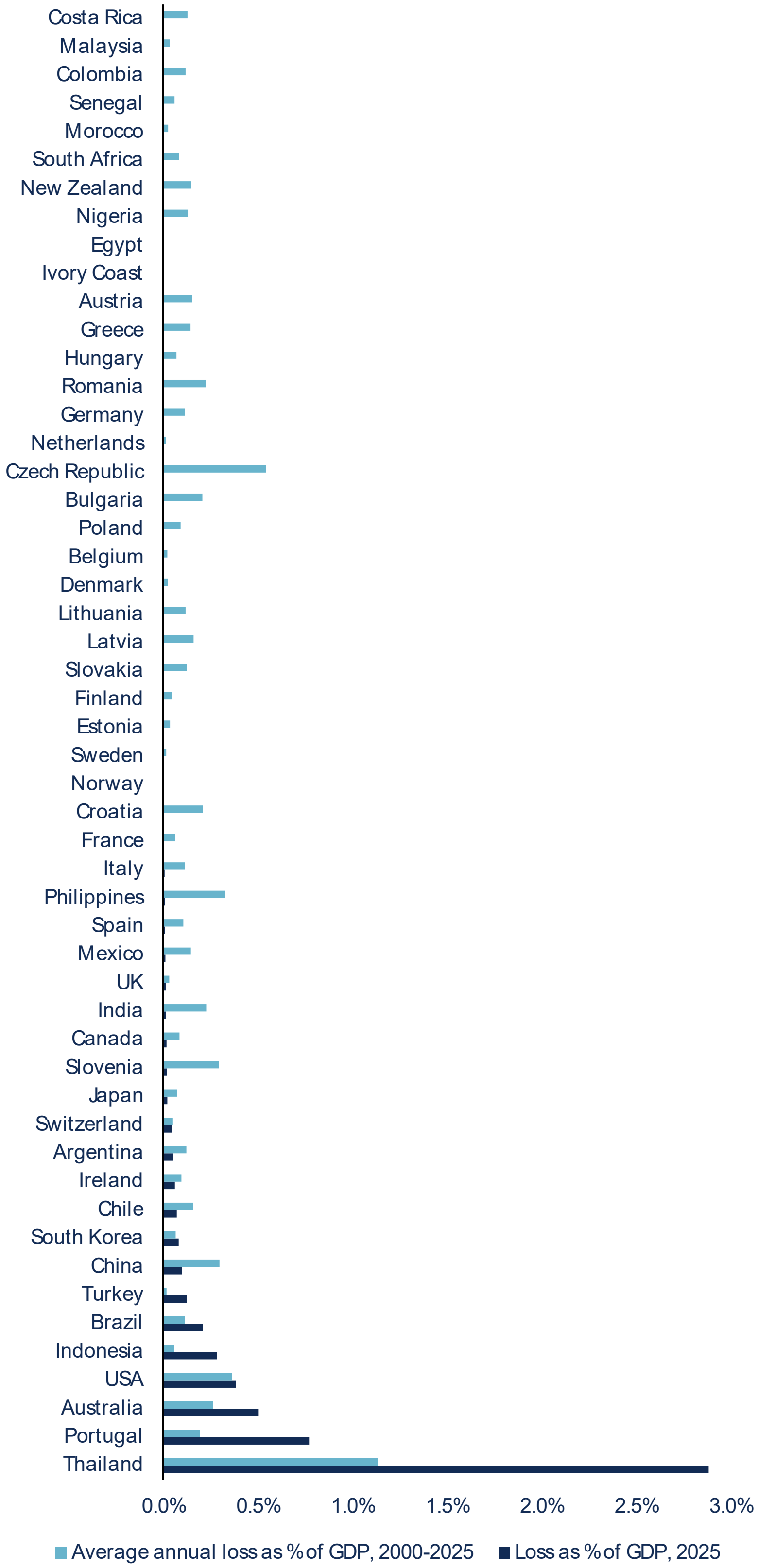
Economic losses in 2025 were highly concentrated, but their national significance depends on the size of the affected economy (Figure 7). Thailand records the largest relative burden among the 52 countries, with reported losses of USD16.7bn, equivalent to 2.9% of GDP. This is well above its average annual loss of 1.1% of GDP over 2000–2025. Most of the 2025 total comes from the November 2025 floods, estimated at USD15.7bn, with a further USD950mn associated with Typhoon Bualoi. The concentration of losses in a small number of events shows how one severe episode can dominate a country's annual result.

Portugal ranks second relative to GDP. Its reported wildfire losses of USD2.7bn represent 0.8% of economic output, four times the historical annual average of 0.2%. Australia follows at 0.5% of GDP, compared with an average of 0.3%. Its USD9.3bn total is largely associated with Ex-Tropical Cyclone Alfred and another major storm later in the year. In each of these countries, the 2025 burden was therefore unusually high because a few events generated losses that were large relative to the domestic economy.

The ranking changes considerably when losses are considered in absolute terms. The United States records by far the largest monetary loss, at approximately USD118.5bn. Nearly half of this amount is associated with the Los Angeles County wildfires, while severe convective storms, floods and drought account for much of the remainder. Yet the total corresponds to around 0.4% of US GDP, broadly in line with the country's historical average. China provides another example: reported losses reach USD19.8bn, but amount to only 0.1% of GDP, below its historical average of 0.3%. Large economies can consequently absorb very substantial monetary losses without appearing at the top of a GDP-normalized ranking.

Indonesia and Brazil occupy an intermediate position. Indonesia records losses of USD4.1bn, equivalent to 0.3% of GDP, compared with a historical average of 0.1%. Brazil's USD4.8bn loss represents 0.2% of GDP, also above its long-term average of 0.1%. These cases underline the value of presenting both measures: absolute losses indicate the financial scale of an event, while the loss-to-GDP ratio provides a first indication of its weight relative to national economic capacity.

Figure 7: Extreme weather event associated economic loss to GDP per country in 2025



Sources: ClimRad, Earthian, Allianz Research

2026 climate event deep dive: Europe's summer heatwaves

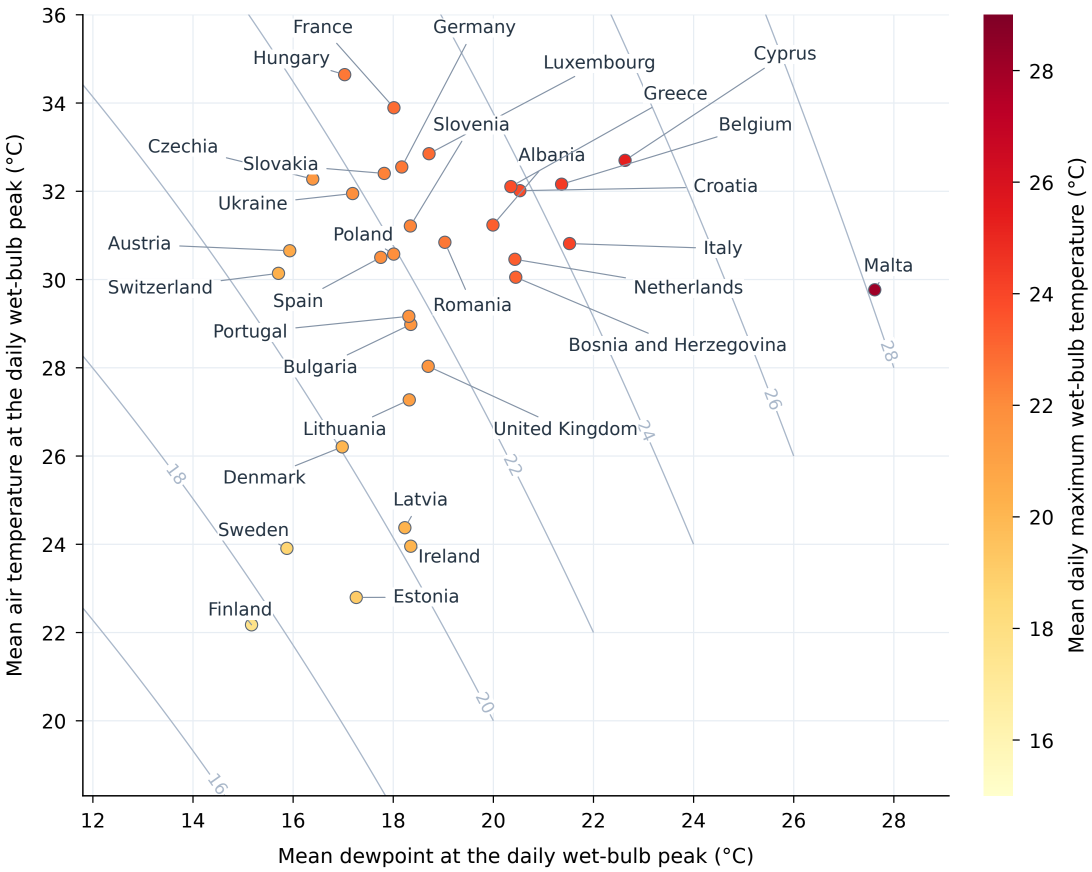
Europe's heatwaves extended across the summer, with the most intense exposure occurring at different times across countries. France, Germany and Belgium recorded their highest five-day heat exposure in late June, followed by Italy and Greece in July, and Spain, Portugal and Cyprus in August. These differences shape the assessment of economic losses, which uses each country's most intense five-day period between June and August 2026.

Humidity plays an important role in the severity of heat exposure (Figure 8). It limits the body's ability to cool, so the highest air temperatures do not always coincide with the greatest heat stress. We capture this combined effect using wet-bulb temperature, calculated from hourly ERA5 weather data. National averages give greater weight to more populated areas, bringing the assessment closer to the conditions people experience. For each country, temperature and dewpoint during the five-day period with the highest average daily peak in heat stress provide the inputs to calculate the annual output-loss estimates (Appendix A4).

The summer's peak heat exposure is associated with an estimated EUR113bn in annual GDP losses across the 30 countries assessed, equivalent to around 0.46% of their combined projected GDP in 2026 (Figure 9). The estimates use each country's most intense five-day period between June and August 2026 to calculate the heat-related reduction in annual GDP growth, expressed in percentage points (Appendices A4 and A5). For each country, we first construct a reference GDP projection for 2026 by applying the projected annual real GDP growth rate to its 2025 GDP. We then reduce that growth rate by the estimated heat-related growth loss, expressed in percentage points, and recalculate the 2026 GDP level. The difference between these two projections gives the estimated annual output loss associated with the observed heat exposure. Monetary losses are expressed in euros, holding prices and exchange rates constant between the two projections.

Italy, Germany and France account for almost two-thirds of the estimated monetary loss. Italy records the largest burden at EUR27.8bn, followed by Germany at EUR25.0bn and France at EUR20.1bn. Adding Belgium at EUR9.4bn and the Netherlands at EUR9.2bn brings the share of these five economies to 81% of the total. Economic size explains much of this concentration, but the intensity of the estimated growth shock also matters. Italy's loss exceeds Germany's despite its substantially smaller economy, as its growth impact reaches 1.19pp against 0.54pp in Germany.

Figure 8: Population-weighted peak heat exposure in Europe, June–August 2026



Sources: ERA5, Allianz Research

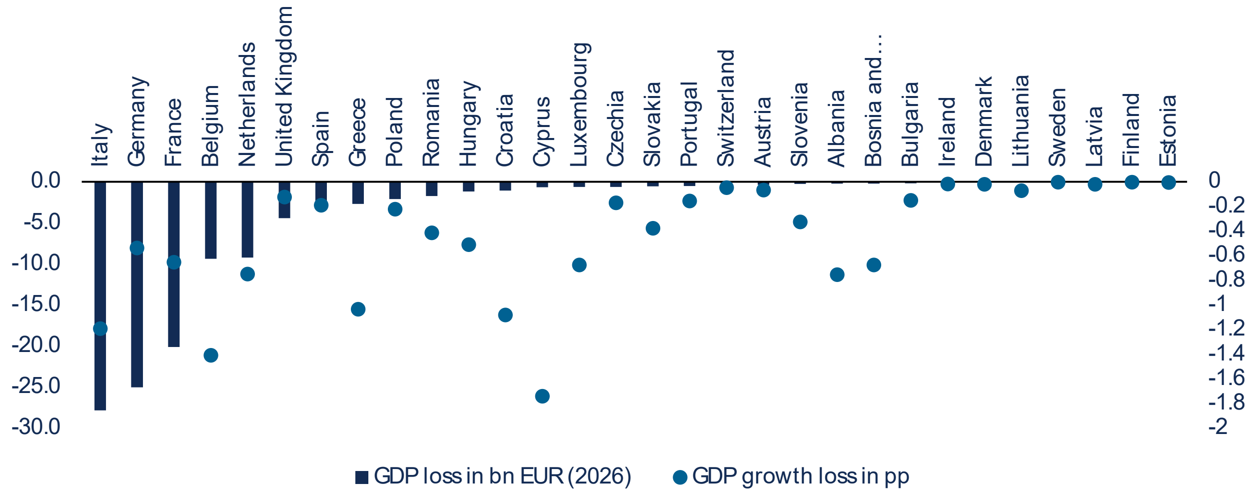
The largest proportional burdens fall on a different group of countries. Cyprus has the strongest estimated growth impact at 1.74pp, followed by Belgium at 1.41pp, Italy at 1.19pp, Croatia at 1.08pp and Greece at 1.03pp. For Cyprus, this translates into approximately EUR0.7bn, or 1.7% of projected annual GDP. Germany's much larger monetary loss corresponds to around 0.53% of GDP.

The results also show why air temperature alone is not sufficient metric to economic heat exposure. During Italy's selected period, the population-weighted air temperature averages 30.8°C and the dewpoint 21.5°C. Hungary is considerably hotter at 34.6°C, but its dewpoint is lower at 17.0°C. Their corresponding mean daily maximum wet-bulb temperatures are 24.1°C and 22.6°C, respectively, and the model estimates a larger growth loss for Italy: 1.19pp against 0.51pp in Hungary. Humidity helps explain why some countries with less striking air temperatures nevertheless face substantial heat stress. This interpretation is consistent with firm-level evidence across 23 advanced economies: Costa et al. (2024) find that high humidity and longer heatwaves amplify the adverse effects of heat on labor productivity[11].

Heat can reduce output without causing visible damage to buildings or equipment. Workers may work more slowly, require longer breaks or miss work altogether. Evidence from Indian manufacturing links hot conditions to both lower worker productivity and increased absenteeism, while finding that climate control mitigates productivity losses. These findings help explain how heat exposure can translate into lost production, although they do not establish the size of the European losses estimated here. The national results also conceal differences between workplaces: population weighting brings the calibration closer to where people experience heat, but does not directly measure occupational exposure, access to cooling or firms' capacity to reorganize work[12].

[11] The heat is on: Heat stress, productivity and adaptation among firms | OECD
[12] The Impact of Temperature on Productivity and Labor Supply: Evidence from Indian Manufacturing | Journal of Political Economy: Vol 129, No 6

Figur 9: Estimated real GDP cost for the 2026 European heatwave



Source: ClimRad, Allianz Research

The 2027 climate outlook

2027 is likely to be another year of exceptional global heat and has a credible chance of becoming the warmest year on record. The WMO projects annual global mean near-surface temperatures at between 1.3°C and 1.9°C above the 1850–1900 average during 2026–2030[13]. It estimates an 86% probability that at least one of these years will surpass 2024 as the warmest recorded, a 91% probability of another annual exceedance of 1.5°C and a 75% probability that the five-year mean will exceed that level. No final ranking can yet be assigned to 2026, and the WMO does not provide a separate probability for 2027. However, its lead author specifically identifies 2027 as a potential record year because El Niño is expected to peak towards the end of 2026. A June 2026 research places annual global surface air temperature (GSAT) close to 1.7°C in 2027[14].

El Niño will add a temporary boost to temperatures in 2027, rather than explain the underlying warming trend. The forecast strengthened markedly during 2026. The WMO's May outlook indicated a tendency towards El Niño, particularly in 2027 and 2028; by September, the event was firmly established and considered almost certain to persist through February 2027. This was the first time a WMO El Niño/La Niña Update had been so unequivocal about the persistence of an event. The Niño 3.4 anomaly averaged 1.5°C during May–July and had risen to between 2.2°C and 2.6°C by mid-August, while subsurface anomalies exceeded 8°C in places. The WMO projects a Niño 3.4 anomaly of around 3.6 ± 0.4°C for September–November, followed by a peak towards the end of 2026[15]. Since the global temperature response can extend beyond the peak in Pacific warming, part of the additional effect is likely to carry into 2027[16] [17].

The weather outlook combines a widespread heat signal with much less uniform rainfall risks. The latest WMO seasonal forecast favors above-normal temperatures across almost all land areas entering 2027, including strong signals over most of Australia, southern Africa and large parts of South America. Rainfall patterns are more divided. Drier conditions are favored over the Indian subcontinent, southern Central America and the Caribbean, and northwestern and northern coastal South America; wetter conditions are favored across parts of North America, the Greater Horn of Africa and southeastern South America. The rainfall signal over Australia remains weak. These forecasts describe the conditions leading into 2027, not the whole year. Moreover, the strength of El Niño does not determine the severity of impacts in each country, which will also depend on the timing of the event and on conditions in the Indian and Atlantic Oceans.

[13] Global Annual to Decadal Climate Update 2026-2035
[14] Getting even hotter: Researchers predict global warming of 1.7 degrees by 2027 - University of Graz
[15] Global Seasonal Climate Update for September-October-November 2026
[16] Evolution of El Niño–Southern Oscillation and global atmospheric surface temperatures - Trenberth - 2002 - Journal of Geophysical Research: Atmospheres - Wiley Online Library
[17] El Niño set to become very strong, raising risks of extreme weather into 2027

A record-hot 2027 would represent another annual exceedance of 1.5°C, but would not by itself establish a breach of the Paris temperature goal. Applying their published extrapolation method, Kirchengast and Pichler (2025)[18] place the 20-year warming level centered on 2024 at 1.39 [1.29–1.49]°C GSAT. The June 2026 research extends this estimate to 1.55 ± 0.10°C GSAT for the center year 2027. Both figures are observation-constrained and projection-assisted, with projections accounting for a larger part of the 2027 window. Dividing the latter estimate by the authors' 1.06 GMST-to-GSAT factor gives approximately 1.46°C in global mean surface temperature. This is broadly consistent with Foster and Rahmstorf's (2026)[19] finding that, if the recent GMST trend continues, the long-term 1.5°C level will be reached before 2030. El Niño may therefore determine whether 2027 sets a new annual record; emissions will determine whether warming subsequently settles above the Paris threshold.

El Niño is likely to have small to moderate economic effects in 2027, but their direction and scale vary markedly across countries (Figure 10a). Most economies experience lower output as higher temperatures weigh on productivity and activity. A smaller group sees relatively cooler conditions than in the baseline, modestly supporting growth. This is compatible with an exceptionally warm year globally: the temperature response to El Niño is geographically uneven, and individual countries can move in opposite directions around the rising global trend.

The estimates use the 2023–2024 super El Niño to calibrate the country-level temperature response. For each country, we use the change in temperature recorded during that episode to construct the corresponding 2027 shock. This is then translated into effects on GDP growth, headline inflation and food inflation. The economic baseline combines 2026 real GDP with 2027 growth assumptions from the IMF World Economic Outlook, supplemented by World Bank forecasts where necessary. Monetary effects are expressed in constant 2021 PPP-adjusted USD. The exercise should be interpreted as a temperature-channel scenario rather than a precise country forecast, since rainfall, crop losses and physical damage could alter the eventual outcome. Figure 10a presents a selection of countries, while Appendix A6 reports the full results.

The global monetary cost is driven as much by the size of the affected economies as by the severity of their individual shocks. Among the 144 countries with complete GDP data, 109 record lower output, 34 record gains and one is broadly unchanged. Gross losses reach an estimated USD488bn, partly offset by USD37bn of gains, leaving a net reduction of around USD451bn, or 0.24% of their combined projected GDP in 2027. China records the largest monetary loss, at USD147bn, with GDP 0.38% below baseline. It is followed by the US at USD91bn, or 0.33%, and India at USD50bn, or 0.30%. Together, these three economies account for almost 60% of the gross loss. The proportional effects are larger in South Korea and Indonesia, at 0.51% and 0.41% of baseline GDP, respectively, although their monetary losses are lower at USD15bn and USD19bn. France, Argentina, Nigeria and the UK are among the larger economies on the other side of the distribution, with estimated gains ranging from USD2bn to USD7bn.

The EU-27 aggregate conceals a marked divide between countries. Output falls below baseline in 21 member states, generating gross losses of USD37.3bn. Gains of USD13.3bn in the other six reduce the net EU-27 cost to around USD24bn, equivalent to 0.09% of projected GDP. Italy, Poland and Germany record the largest monetary losses, at approximately USD7.0bn, USD6.7bn and USD6.3bn, respectively. Greece experiences the largest proportional decline among the EU countries shown, at 0.55%, but its smaller economy limits the monetary loss to USD2.3bn. France provides the largest offset, with a gain of USD7.3bn, followed by Spain at USD2.7bn and Ireland at USD2.4bn. The relatively small EU-wide effect therefore reflects offsetting national outcomes rather than a uniformly limited exposure.

The inflationary effects are broader than the output effects and are generally stronger for food prices (Figure 10b). Across the countries with complete GDP data, a PPP-GDP-weighted summary points to an increase of 0.42pp in headline inflation and 0.65pp in food inflation. The corresponding EU-27 effects are 0.31pp and 0.50pp. The largest increases are concentrated in Northern and Eastern Europe. Headline inflation rises by around 1.5pp in Estonia, Latvia, Sweden and Poland, while food inflation increases by between 2.35pp and 2.57pp. Among the

[18] A traceable global warming record and clarity for the 1.5 °C and well-below-2 °C goals | Communications Earth & Environment
[19] Global Warming Has Accelerated Significantly - Foster - 2026 - Geophysical Research Letters - Wiley Online Library

major economies, South Korea records increases of 1.02pp in headline inflation and 1.59pp in food inflation. The corresponding effects reach 0.67pp and 1.04pp in China, 0.57pp and 0.84pp in India and 0.18pp and 0.29pp in the US. Countries receiving a more favorable temperature impulse generally move in the opposite direction: inflation declines in Ireland, Argentina, Spain, France and the UK. The stronger response of food prices means that the household effect could be more visible than the relatively moderate GDP percentages suggest, particularly in economies where food represents a large share of consumption.

These results should be read as a sensitivity analysis, not as a forecast of the realized economic effects of the 2026–2027 El Niño. The exercise assumes that country-level temperature responses broadly resemble those observed during the 2023–2024 episode. This pattern could change with the strength, timing and geographical center of the event, as well as its interaction with the Indian Ocean Dipole, Atlantic sea-surface temperatures and regional atmospheric and soil-moisture conditions. The estimates pass the resulting temperature shocks through temperature-driven damage functions and therefore do not capture additional losses from discrete extreme events. These could include severe heatwave in southern and western Europe, flooding and landslides in Peru and Ecuador, drought and agricultural losses in Indonesia and southern Africa, wildfire conditions across parts of Southeast Asia, or changes in tropical-cyclone activity in the central and eastern Pacific. If such events materialize, the eventual economic cost could be substantially higher than the temperature-based estimates reported here.

Figur 10: Estimated GDP and inflation effects of El Niño in 2027

Source: ClimRad, Allianz Research

Adaptation responses to major climate events in 2025–2026

Recent climate events provide a practical test of how countries are adapting to rising physical risks. This section examines major weather and climate events recorded in 2025 and 2026 across Europe, Latin and Central America, North America, Asia-Pacific, Sub-Saharan Africa, and the Middle East and North Africa. Events were first screened for record or near-record severity in at least one material dimension, including hazard intensity, area affected, human consequences, economic or insured losses, and disruption to critical infrastructure. The final selection captures distinct regional patterns while limiting overlap between events with similar risk profiles.

For each event, we examine how the affected countries responded and whether the experience led to broader adaptation measures. The comparison covers the main adaptation priorities, measures already implemented or announced, and the funding committed or still required. It also distinguishes immediate emergency and recovery actions from longer-term efforts to reduce exposure and vulnerability. The aim is to identify where recent shocks have accelerated preparedness and investment, and where adaptation remains fragmented, reactive or insufficiently funded.

Europe

Europe is experiencing rapidly changing climate conditions, making previously rare extremes increasingly common. Preparedness, however, varies across countries and hazards. The events of 2025–2026 illustrate this shift across several hazards: extreme heat has become a recurrent threat across much of the continent, while persistent drought and water scarcity have affected both southern Europe and major river basins further north (Table 1). Wildfire activity reached unprecedented levels in the EU in 2025 and remained a major concern in the Mediterranean in 2026. Severe storms and flooding also continued to cause substantial impacts, particularly across southern and western Europe. The scale of these events is prompting new adaptation measures, including stronger EU wildfire preparedness, expanded heat health planning and new water resilience measures. Together, these developments highlight the need to strengthen adaptation not only where hazards are already well established, but also in regions where changing conditions are creating new or more frequent risks.

Table 1: Europe adaptation responses to major climate events, 2025–2026

Events	Countries affected	Key adaptation strategies	Measures implemented / planned	Budget needed / budget available
Heatwaves **2026: ≥35,000 excess deaths (Germany ~14,000, its worst on record)** **2025: ~16,500 climate-attributed deaths**	Widespread across Europe	Heat-health action plans (early warning, at-risk registries, health-system readiness); urban cooling & greening (street trees, reflective/green roofs); passive cooling & building/hospital retrofits.	WHO/Europe 2nd-edition Heat-Health Action Plan (8-element framework); HHAPs cut heat deaths ~25% where in place but <50% of WHO-Europe states have a national, mostly reactive plan[1]; building renovation/ cooling funded via EU renovation programmes; no EU-wide heat law.	~EUR100bn EU building renovation (not heat-specific); no dedicated EU heat budget line; cost of heat-proofing (cooling, retrofits, greening) largely not yet estimated.
Wildfires **2025: worst EU year on record (~1.08m ha)** **2026: France, Spain & Belgium set national / single-fire records**	Spain, Portugal, France, Greece, Italy, Cyprus; plus Belgium & UK / Scotland in 2026.	Fuel reduction & sustainable land/ forest management; fire-resilient landscapes & ecosystem restoration; early-warning & risk-monitoring systems; shared aerial & ground firefighting capacity; community preparedness.	EFFIS (forest-fire information & early-warning system; the EU Integrated Wildfire Risk Management Strategy, funded through the CAP; Civil Protection Mechanism, including rescEU : 777 firefighters, 22 aircraft and 5 helicopters prepositioned for 2026., plus a new regional hub and a permanent EU fleet from 2028.[2]	~EUR170m rescEU reinforcement plus CAP & cohesion funds (not fire-specific); no dedicated EU prevention fund. ~80% of EU wildfire funding goes to response, only ~20% to prevention.[3]
Drought **2025–26: widespread & persistent** **Summer 2026: ~50% of EU+UK land in drought; Loire, Po, Rhine & Danube at record lows**	Mediterranean hotspots (Spain, Portugal, France, Italy); major river basins across Central & Western Europe.	Water Efficiency First'; water reuse & efficiency; nature-based retention (soil & 'green water' storage); national drought-management plans; AI-based monitoring & early warning.	European Water Resilience Strategy sets 30+ actions and a 10% water-efficiency target by 2030, backed by a Water Resilience Forum[4]; national drought-management guidance is being issued to Member States, and the water sector is now covered by EU resilience rules.	EUR15bn EIB water-resilience facility (2025–27)[5]; calls for a dedicated, ring-fenced EU water fund are ongoing.
Storms (windstorms&severe convective storms / hail) **Kristin & Iberian cluster (2026): EUR7.2bn economic loss** **Eowyn (2025): Ireland record loss** **SCS / hail (2025): top European insured-loss driver**	Windstorms: Portugal, Spain, France, Italy, Ireland, UK, Malta, Greece, the Balkans. Hail / SCS: France, Austria, Germany, northern Italy.	Resilient & hail-resistant building codes; power-grid hardening; better exposure data; parametric & public-private insurance; closing the insurance protection gap.	Response runs through the EU Civil Protection Mechanism and the EU Solidarity Fund; on prevention, the ECB and EIOPA have proposed an EU-level scheme (reinsurance plus a public disaster fund) to narrow the protection gap, since only ~25% of EU NatCat losses are insured.[6]	No ring-fenced EU storm-protection budget; response relies on national reconstruction funds, the EU Solidarity Fund and private insurance. Core issue: the protection gap (Kristin >80% uninsured).
Floods **2025: modest EU insured losses** **2026: main driver of Iberian-cluster damage**	Southern & Western Europe (Iberia flash / pluvial); riverine basins across Central Europe.	Floodplain restoration & 'sponge cities'; upgraded flood defences; risk-based land-use planning; expanded or mandatory flood cover.	Covered by the EU Floods Directive and national insurance schemes, moving toward mandatory business cover; flood defences already cut losses substantially, but Southern-Europe investment is patchy and most exposure uninsured.	No dedicated EU flood-protection budget; funding via national schemes and the EU Solidarity Fund[7]; most flood-prone losses in Southern Europe remain uninsured.

Source: Allianz Research

Adaptation priorities differ across Europe, reflecting differences in exposure, vulnerability and existing preparedness. Europe has substantial capacity for emergency response, early warning and post-disaster support, but adaptation remains uneven and greater emphasis is needed on preventing and reducing risks before events occur. This is particularly important as hazards increasingly affect countries and regions with less experience of them: heat resilience needs to be integrated into building renovation, urban planning and health systems, while flood risk needs to be addressed through both infrastructure and more risk-sensitive spatial planning. In southern and increasingly water-stressed parts of Europe, improving water efficiency, reuse and natural water retention will be central to managing drought risk. Meanwhile, in wildfire-prone areas, prevention through landscape management and community preparedness needs to complement growing firefighting capacity. A further European challenge is the significant gap between rising climate-related losses and available financial protection. Closing this insurance protection gap, alongside more systematic risk-informed planning and investment in prevention, will be important to reduce the growing costs of climate impacts.

Asia Pacific

Asia Pacific shows clear differences in adaptation maturity, with countries varying in how far they have moved from emergency response towards established prevention systems (Table 2). Australia presents the most developed framework: bushfire prediction, building standards, community resilience and dedicated funding are already embedded in national and local institutions, although implementation still varies by region. Japan also has strong emergency capacity, as shown by the extensive response to the Ofunato wildfire, but the balance remains tilted towards firefighting, evacuation and recovery rather than reducing forest-fire risk in advance. China occupies an intermediate position. Its response to Typhoon Ragasa combined forecasting technology, regional data sharing and rapid infrastructure restoration with clearly identified emergency funding. Cooperation around the Nepal–China floods also improved early warning, but lacked a dedicated adaptation budget. Indonesia has expanded hotspot monitoring, weather modification and local coordination, yet persistent land-management problems and the absence of a separate wildfire budget limit the shift from suppression to prevention. India ranks lower in terms of institutional consolidation: heat adaptation draws on building projects, welfare measures and climate-finance platforms, but delivery remains dispersed across schemes and jurisdictions. The regional pattern suggests that repeated exposure can strengthen operational capacity, while long-term adaptation advances more slowly when responsibilities and budgets are divided among several levels of government.

Table 2: Asia-Pacific adaptation responses to major climate events, 2025–2026

Event	Countries affected	Adaptation targets	Measures implemented / planned	Budget needed / budget available
Ōfunato Wildfire (2025)	Japan	Wildfire prevention and warning systems; forest and fuel management; firebreak and forest-road development; stronger firefighting capacity; wildfire-resilient communities[8]	Extensive firefighting, evacuation support and temporary housing; forest restoration was also provided. Current measures remain more focused on response and recovery than on long-term prevention[9]	Information not available
Australia Bushfires (2025/26)	Australia	Extended landscape and fuel management; stronger community preparedness and evacuation planning; wider use of fire-resilient building standards; stronger bushfire intelligence and early warning[10]	Extensive fire-prediction and early-warning systems; satellite hotspot monitoring and spread modelling; national bushfire building standards; community-resilience frameworks; continued investment in bushfire intelligence and preparedness. Overall, Australia has a relatively mature adaptation framework, although implementation and coverage vary across regions[11]	AUD 17.1mn for the Bushfire Community Recovery and Resilience Program in 2025-26; AUD 7.0mn over 2025-27 for the National Bushfire Intelligence Capability[12]
Indonesia Wildfires (2026)	Indonesia	Peatland and forest-fire prevention; hotspot monitoring and early warning, sustainable land and water management; stronger enforcement against fire-based land clearing; local preparedness in high-risk areas[13]	Hotspot monitoring; weather-modification operations; helicopter and aircraft deployment; water bombing; stronger central-local coordination. Measures in 2026 remain heavily focused on rapid suppression, while longer-term prevention and land-management challenges persist.[14]	No dedicated national wildfire budget exists — part of BNPB's overall disaster budget, which is planned to increase[15]
India extreme heat (2025, 2026)	India	Passive cooling and heat-resilient building design; enforceable worker protections; long-term heat action planning; climate-resilient health systems; better-calibrated insurance and finance tools[16]	Demo building projects; worker welfare levies and insurance pilots; health facility guidelines; farmer forecast alerts; early-stage national climate finance platform. Implementation remains fragmented and mostly small-scale or non-mandatory[17]	No dedicated national heat budget exists; ~INR 91,138 crore identified as 'directly relevant' across 27 schemes in the 2026-27 budget proposal[18]
Typhoon Ragasa (2025)	Cambodia, China, Laos, Philippines, Vietnam	Climate-resilient critical infrastructure; stronger coastal and urban flood protection; impact-based multi-hazard early warning[19]; regional data sharing and contingency planning[20]	Advanced forecasting and early-warning systems; large-scale evacuation and disaster management; regional data sharing; use of AI for cyclone monitoring, forecasting and impact assessment. Early-warning systems are relatively mature[21]	China allocated CNY 150m for disaster relief and CNY 200m for emergency infrastructure restoration[22]; Information not available for other countries
Nepal-China border flood (2026)	China, Nepal	Glacier and slope monitoring; cross-border data sharing; early-warning systems; climate-resilient transport and hydropower infrastructure[23]	Nepal plans to rebuild and expand its border early-warning system using seismic sensors, cameras and satellite connectivity; stronger real-time data sharing with China is being pursued[24]	USD 4-5 bn[25] estimated reconstruction needs; no dedicated adaptation budget identified
Pakistan monsoon floods (2025)	Pakistan	End-to-end flood early warning; comprehensive flood-risk assessment and mapping; risk-informed land-use planning; pre-positioned emergency equipment and shelters[26]	Multi-tier early-warning systems; national monsoon contingency planning[27]; large-scale preventive evacuation; anticipatory cash assistance and strengthened contingency planning. Preparedness has improved, but translating early warnings into timely action remains a priority[28]	Pakistan: 1% of FY2025/26 federal budget for disaster expenditure[29]; USD 5m UN[30] + USD 3m ADB[31] for 2025 flood response

Source: Allianz Research

Central and South America

Across Central and South America, adaptation capacity is shaped less by the volume of resources mobilized than their timing, continuity and purpose (Table 3). Honduras and Chile represent the strongest approaches, although through different models: Honduras links funding to forecasts so that action can begin before impacts materialize, while Chile relies on institutional capacity accumulated through sustained investment in prevention and emergency response. Mexico and Peru occupy an intermediate position. Both can mobilize substantial resources, but the boundary between adaptation, disaster recovery and broader public spending remains blurred, limiting confidence that current expenditure will reduce future losses. Bolivia and Argentina appear more constrained for different reasons: Bolivia's response remains centered on relief and dependent on the completion of financing approvals, whereas Argentina's emergency mobilization coexists with a weakening of permanent wildfire-management capacity. The comparison therefore exposes a central regional fault line. Governments may respond forcefully once a disaster occurs without necessarily building resilience between events. Stronger adaptation requires more than larger emergency packages: it depends on protected multi-year budgets, clearly identified adaptation spending, pre-agreed financing triggers and institutions capable of preserving expertise and preparedness from one season to the next.

Table 3: Central and South American adaptation responses to major climate events, 2025–2026

Event	Countries affected	Adaptation targets	Measures implemented / planned	Budget needed / budget available
Central and eastern Mexico floods (2025)[32]	Mexico	Flood early warning and river monitoring; resilient housing, roads, health facilities and schools; emergency communications; protection of vulnerable communities.	Recovery-led The DN-III and Plan Marina systems supported rescue, relief and service restoration. A federal plan added support for households, businesses and agriculture, alongside reconstruction of homes and public infrastructure. Longer-term drainage, land-use and river-basin measures remain less clearly specified.	Federal relief, recovery and reconstruction package MXN10bn (approximately USD543m at MXN18.40 per USD on 22 October 2025). The published total does not identify a dedicated adaptation share.
Bolivia floods (2025)[33]	Bolivia	Multi-hazard and river early warning; climate-resilient water and sanitation; stronger housing and transport links; social protection for remote rural and Indigenous communities.	Relief-oriented A national emergency accelerated procurement and resource deployment, supported by military logistics. Humanitarian assistance in Beni included water filters, storage and hygiene support for vulnerable families. No clearly documented new national prevention programme followed.	Sovereign disaster-response loan USD75m from CAF. The Senate had approved the loan before the 26 March emergency declaration, but full congressional approval remained outstanding. No dedicated adaptation allocation was identified.
Honduras flood season (2025)[34]	Honduras	Forecast-based early action; community warning and evacuation; water, sanitation and hygiene; cash and livelihood protection; stronger local preparedness.	Anticipatory A forecast-triggered protocol linked warnings to early measures and assistance for 10,000 people. EU support complemented national and Red Cross flood-response efforts. This is the clearest case of finance being released before impacts fully materialised.	Anticipatory trigger fund and emergency grant CHF917,330 (approximately USD1.15m) from IFRC-DREF, plus EUR150,000 (approximately USD0.18m) in EU support. These funded separate responses during the 2025 flood season, not one pooled package.
Chile wildfire season (2025–2026)[35]	Chile	Wildfire prevention and mitigation; larger brigade and aerial capacity; technology-enabled monitoring; fuel and vegetation management; community preparedness and resilient recovery.	Institutionalised prevention and response The government launched its plan before the season, adding brigades and technology. Emergency declarations, evacuation and international expert support followed the January 2026 fires in Biobío and Ñuble. The architecture reflects capacity accumulated over several seasons rather than a post-event reaction.	Annual wildfire operating budget CLP160.803bn (approximately USD166m). This is 113% above 2021–2022, not the previous season, and only around 3% above CLP156bn in 2024–2025 in nominal terms.
Patagonia wildfire season (2025–2026)[36]	Argentina	Prevention and early warning; fuel and firebreak management; firefighter and aerial capacity; native-forest protection; community preparedness.	Reactive and capacity-constrained An emergency covered Chubut, Río Negro, Neuquén and La Pampa, with national and provincial firefighters, aircraft, the military and community brigades deployed. Operational mobilisation was substantial, but prevention capacity remained constrained.	Emergency firefighting allocation Approximately USD69m. FARN estimates the National Fire Management Service's 2026 budget was cut by 71% in real terms from 2025, following an 80% cut in 2024. The National Park Administration reportedly retained 391 firefighters after losing around 10% of staff.
Peru floods (February 2026)[37]	Peru	Emergency repairs to roads, bridges, water and electricity; flood warning; resilient reconstruction; protection of exposed communities.	Post-event emergency response The February declaration enabled faster funding and repairs after severe rains and flooding. It was a distinct response from the pre-emptive El Niño measures adopted in July.	No dedicated flood-response or adaptation envelope was identified in the reviewed February source.
El Niño preparedness measure (July 2026)[38]	Peru	Flood-prevention infrastructure; continuity of essential services; early action for agriculture and fisheries; precautionary fiscal planning.	Pre-emptive but not ring-fenced A separate 60-day emergency covered nearly 40% of districts because of imminent El Niño rainfall risk. Congress then approved broad supplementary spending that included prevention measures. The fiscal council questioned expanding expenditure rather than building precautionary savings.	General supplementary budget USD2.8bn across infrastructure, essential services, salaries, crime initiatives and flood prevention; no adaptation share was disclosed. Credicorp Capital estimated potential El Niño losses at PEN16bn (USD4.7bn) over 2026–2027.

Source: Allianz Research

North America

North America shows that adaptation responses can differ as much within countries as between them, shaped by the hazards faced and the strength of existing prevention systems (Table 4). California presents the strongest response in terms of financial scale and structural prevention. Following the Los Angeles wildfires, the state combined updated hazard maps, expanded prescribed burning and fuel reduction with support for home hardening, backed by USD4bn for wildfire and forest resilience. Canada offers the most developed community-based model. Its FireSmart framework links local planning, risk assessment and public preparedness, with dedicated funding for Indigenous communities and public warning systems. Implementation nevertheless remains uneven across high-risk areas. Texas represents a more reactive stage of adaptation. The Hill Country floods exposed gaps in forecasting, warning systems and emergency communication, prompting new investment in sirens, gauges, meteorological infrastructure and disaster response. These measures address clear operational weaknesses, but place less emphasis on land-use planning and long-term reduction of flood exposure. The contrast reflects the nature and history of the hazards: recurrent wildfire losses have encouraged California and Canada to build permanent prevention frameworks, while the Texas response followed a disaster that revealed neglected local preparedness.

Table 4: North America adaptation responses to major climate events, 2025–2026

Event	Countries affected	Adaptation targets	Measures implemented / planned	Budget needed / budget available
Texas Hill Country Flood (2025)	US	Comprehensive flood warning and forecasting; local emergency communications and evacuation planning; emergency-management training; stronger preparedness in high-risk areas[39]	Flood-warning sirens and gauges; upgraded meteorological forecasting and weather intelligence; improved flood management and warning timeliness.[40] Key warning gaps are being addressed	USD 50m for flood-warning gauges; USD 28m for forecasting and warning improvements; USD 200m for disaster response[41]
Los Angeles wildfires (2025)	US	Wildfire-resilient rebuilding and home hardening; defensible space and ember protection; community-wide mitigation; vegetation and fuel management[42]	Updated fire-hazard maps[43]; expanded fuel reduction and prescribed burning; accelerated wildfire-prevention projects.[44] Prevention capacity is relatively advanced, but broad implementation remains important	California: USD 4bn for wildfire and forest resilience; USD 200m annually through 2028-29 for forest and fire prevention[45]
Canada wildfire season (2025/26)	Canada	Community wildfire prevention and mitigation; local FireSmart planning; stronger preparedness in high-risk, northern and Indigenous communities; improved risk awareness and public warning[46]	FireSmart-ready communities; wildfire preparedness and FireSmart projects in northern and Indigenous communities; expanded community risk assessments and monitoring. Implementation remains uneven across high-risk communities[47]	CAD 285m (2023-28) for wildfire risk reduction; CAD 57.2m (2024-29) for Indigenous FireSmart measures; CAD 55.4m (2026-30) for public alerting[48]
US tornado and severe storm outbreak (2025)	US	Reliable tornado and severe-weather warning; accessible safe rooms and storm shelters; household and community emergency planning; stronger wind-resistant building protection[49]	Advanced hazardous-weather warning tools[50]; satellite and radar-based monitoring; strengthened risk communication. Warning capability is advanced, but exposure to extreme winds remains high[51]	Federal disaster assistance activated; no consolidated adaptation budget identified

Source: Allianz Research

Sub-Saharan Africa

Recent climate events are driving two different stages of adaptation in Sub Saharan Africa: anticipatory support for slow moving drought and stronger emergency management for sudden floods (Table 5). In Ethiopia, Kenya and Somalia, the drought response reaches beyond humanitarian relief through preparedness plans, cash support, solar-powered irrigation, water access and livestock assistance. Its design is increasingly preventive, but implementation remains too limited for the scale of regional exposure. The separately identified funding for East Africa and Somalia also remains fragmented across programs. Southern Africa has developed stronger operational capacity for floods. Expanded forecasting, hydrological monitoring and preventive evacuations helped countries act earlier, while search-and-rescue operations and drone assessments improved the immediate of response. Yet repeated damage across Madagascar, Malawi, Mozambique, South Africa, Zambia and Zimbabwe shows that better warning cannot compensate for vulnerable housing, transport and water infrastructure. The difference largely reflects the hazards themselves: drought develops gradually and allows earlier livelihood protection, whereas floods require rapid warning and evacuation. Across both regions, progress is most visible in forecasting and emergency action, while investment in resilient infrastructure and long-term risk reduction remains less developed. Adaptation is therefore advancing, but financing and coverage still fall short of the geographic scale and recurrence of the shocks.

Table 5: Sub-Saharan Africa adaptation responses to major climate events, 2025–2026

Event	Countries affected	Adaptation targets	Measures implemented / planned	Budget needed / budget available
East Africa drought (late 2025 - 2026)	Somalia, Ethiopia, Kenya	Drought-resilient water infrastructure; climate-resilient agriculture and livestock systems; anticipatory action and early warning; adaptive social protection and livelihood diversification[52]	National drought-preparedness activation[53]; anticipatory cash and livelihood support[54]; solar-powered irrigation and water access[55]; livestock-feed assistance[56]. Measures are expanding, but coverage remains limited relative to needs	EUR 47m for East Africa[57], in addition to USD 10m for Somalia[58]
Southern Africa floods (2026)	Madagascar, Malawi, Mozambique, South Africa, Zambia, Zimbabwe	Multi-hazard early warning[59]; climate-resilient water, energy and transport infrastructure; improved regional risk monitoring and information sharing[60]	Expanded multi-hazard early-warning systems; strengthened meteorological and hydrological monitoring[61]; preventative evacuations and search-and-rescue capacity[62]; drone-based damage assessment[63]. Early warning has improved, but infrastructure vulnerability remains high[64]	USD 187m for flood-affected communities[65]; USD 5m for Mozambique[66]; USD 1m AfDB emergency grant[67]

Source: Allianz Research

Middle East and North Africa (MENA)

MENA faces a dual hydrological risk: chronic drought and water scarcity coexist with episodic but potentially severe flooding, while preparedness and policy maturity vary sharply across countries (Table 6). Morocco represents the clearest evidence that sustained investment in early warning, hazard mapping and disaster-risk institutions can reduce human impacts, with large-scale preventive evacuations helping to limit casualties during recent flooding. Tunisia has also strengthened flood-risk management, but its response remains more focused on post-event repairs, drainage clearance and the scaling-up of protective infrastructure. Drought adaptation is more challenging in Syria and Iraq, where high exposure is compounded by structural water scarcity, weaker institutional capacity and broader socioeconomic vulnerability. Beyond domestic adaptation, transboundary water cooperation is also becoming increasingly important, as illustrated by Iraq's expanding water-management partnership with Turkey. Overall, stronger preventive investment and cooperation on shared water resources will be key to improving regional resilience

Table 6: Middle East and North Africa adaptation responses to major climate events, 2025–2026

Event	Countries affected	Adaptation targets	Measures implemented / planned	Budget needed / budget available
Morocco floods (2025/26)	Morocco	Dam-release management and early warning; climate-resilient irrigation and infrastructure; flood-risk zoning; reservoir capacity planning after extreme rainfall reversal[68]	Built on a decade-long World Bank-backed resilience program (USD 408mn since 2016)[69]: flood early-warning systems, hazard mapping, dedicated disaster-risk management directorate. This groundwork enabled a widely-praised, low-casualty response to record 2026 flooding, though the post-flood plan itself centers on relief and reconstruction	MAD 3bn (USD 330mn) post-flood relief/reconstruction plan[70]; part of a broader USD 408mn+ World Bank-backed resilience program since 2016[71]
Tunisia floods (2026)	Tunisia	Urban flood protection and drainage; impact-based early warning; risk-informed disaster planning; stronger communication and preparedness in high-risk areas[72]	Drainage and watercourse clearance; maintenance of flood-control infrastructure; strengthened monitoring and early warning; updated disaster-management plans and risk-area prioritization. Prevention efforts are being scaled up following the 2026 floods[73]	TND 132m for repairing January 2026 flood damage[74]; USD 50m World Bank financing for urban flood resilience[75]
Syria Drought (2025)	Syria	Water-efficient irrigation and reduced water losses; drought-tolerant crops and climate-smart agriculture; diversified and resilient rural livelihoods[76]; drought early warning and anticipatory action[77]	Rehabilitation of irrigation infrastructure; support for agricultural recovery and inputs[78]; development of a national drought-response plan; strengthened coordination on early warning and anticipatory action[79]. Measures are expanding, but remain insufficient relative to the scale of agricultural losses	USD 286.7 FAO for agricultural recovery and resilience plan[80]; no dedicated national drought-adaptation budget
Iraq drought (2025/26)	Iraq	Water-efficient irrigation and reduced conveyance losses; cross-border water-sharing arrangements with Turkey and Iran; drought-resilient crops and groundwater management; national drought early-warning and response planning[81]	Nationwide bans on summer/winter cropping to conserve water[82]; a Green Climate Fund–backed rural resilience project in three governorates; an oil-for-water arrangement with Turkey under negotiation[83]. Measures remain limited relative to a crisis now declared a national security threat[84]	USD 39mn Green Climate Fund project for rural household resilience[85]; no dedicated national drought-adaptation budget identified

Source: Allianz Research

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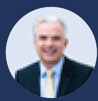

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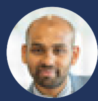

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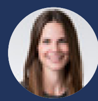

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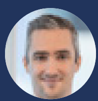

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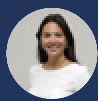

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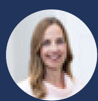

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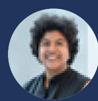

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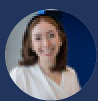

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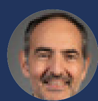

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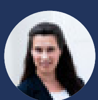

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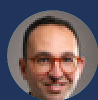

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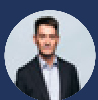

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