CLIMATE CHANGE IN PAKISTAN

A Status Note — August 2026

Prepared as a comprehensive briefing on climate trends, impacts, policy response and outlook

~1%	822 bn	1,039+	4 mn+
of global GHG emissions	2025 flood damages (PKR)	lives lost, 2025 floods	people displaced, 2025

1. Overview: A Disproportionate Burden

Pakistan sits among the countries most exposed to climate change while contributing minimally to the emissions driving it. The State Bank of Pakistan's own assessment finds the country has experienced climate-related disasters at a rate above both global and regional averages over 2000–2024, despite accounting for roughly one percent of global greenhouse gas emissions. This mismatch between contribution and exposure has made Pakistan a leading voice in international climate-justice and loss-and-damage negotiations.

Geography drives much of this vulnerability. Pakistan depends on the Indus Basin for close to 90 percent of its agricultural production, and that basin is fed by the glaciers of the Hindu Kush-Karakoram-Himalaya region — sometimes called the "Third Pole." Warming there, combined with an increasingly erratic monsoon and rising Arabian Sea temperatures, compounds flood, drought and heat risk simultaneously across different parts of the country.

2. Temperature and Weather Trends

- **Warming trend:** 2025 was Pakistan's second-warmest year in 65 years of record-keeping, with a national mean temperature of 23.9°C and rainfall roughly three percent below the long-term average.
- **Heatwaves:** Prolonged heatwaves in 2026 triggered NDMA emergency response measures nationwide, with southern provinces recording the most extreme daytime temperatures and health authorities issuing repeated heatstroke advisories.
- **Northern areas:** The Pakistan Meteorological Department has flagged a high probability of above-normal temperatures across Gilgit-Baltistan and Kashmir, with reduced winter snowfall and persistent clear skies accelerating glacier and snowmelt at mid-to-lower altitudes.

3. Floods, Glaciers and Water Security

Flooding remains Pakistan's most destructive climate hazard. The catastrophic 2022 floods affected roughly 33 million people and caused an estimated USD 14.9 billion in damages and USD 15.2 billion in economic losses — about 4.8 percent of that year's GDP. The 2025 monsoon season again proved severe: flood damages reached PKR 822 billion, more than 1,039 people died, and over four million were displaced, underscoring that these are now recurring rather than exceptional events.

Glacial melt adds a second, compounding threat. More than 3,000 glacial lakes have formed in Pakistan's northern mountains, of which roughly 33 are classified as dangerous; the UNDP-backed GLOF-II programme estimates over seven million people live at risk of a sudden glacial lake outburst flood (GLOF). Rising temperatures in Gilgit, Hunza, Chitral, Bunji, Chilas and Astore have kept this risk elevated through 2026.

Beneath these acute shocks lies a slower-moving water crisis. Per-capita surface water availability has fallen from roughly 5,260 cubic metres in 1951 to close to 1,000 cubic metres in recent years, pushing Pakistan from "water-stressed" toward "water-scarce" status, with droughts also growing more frequent over the past decade.

4. Economic and Human Impact

- **Growth at risk:** The State Bank of Pakistan warns that unaddressed climate change could meaningfully reduce GDP by 2050, with agriculture and industry the most exposed sectors.
- **IMF assessment:** The IMF's third review under Pakistan's Extended Fund Facility flagged continued high exposure to floods, heatwaves and glacier melt as a structural risk to economic stability and poverty reduction.
- **Agriculture:** Heat stress is shortening crop cycles and reducing yields, while smallholder farmers with little access to irrigation, credit or climate information remain the most exposed to income and food insecurity.
- **Public health:** More frequent, intense heatwaves are raising mortality and disease burdens, while floods spread waterborne illness and disrupt health services.

5. Policy Response

Pakistan submitted its third Nationally Determined Contribution (NDC 3.0) to the UNFCCC in September 2025, differentiating its 2035 emissions-reduction and renewables targets between measures it can fund domestically and those conditional on international climate finance. The NDC estimates total investment needs of USD 565.7 billion and places explicit emphasis on gender equality through a dedicated Climate Change Gender Action Plan.

- **Fiscal and regulatory reform:** A carbon levy, an electric-vehicle adoption levy, and a Climate Support Levy were introduced through the FY2025–26 budget; a Pakistan Green Taxonomy has been approved, with voluntary ESG and climate-risk disclosure phasing in ahead of mandatory rollout from 2029.
- **Renewables surge:** Pakistan imported roughly 17 gigawatts of solar equipment in 2024 alone — more than double the prior year — making it the world's third-largest solar panel importer; hydropower and wind capacity are also expanding, though grid capacity and transmission constraints limit how much of this can be reliably used.
- **International standing:** Pakistan climbed 16 places to rank 15th on the 2026 Climate Change Performance Index, scoring very highly on emissions and energy use but poorly on climate policy and renewable-energy implementation — reflecting a persistent gap between ambition and delivery.
- **Domestic financing concern:** Despite rising exposure, federal climate-related development spending was cut by more than 60 percent over five years, falling to about PKR 2.4 billion (USD 8.6 million) for FY2026–27 — a contrast with neighbours such as India, China and Bangladesh, which are increasing climate investment.

6. Outlook

Pakistan's climate trajectory through 2026 shows a country simultaneously advancing on policy architecture — new levies, a green taxonomy, a more ambitious NDC, and a fast-growing solar sector — while remaining acutely exposed to compounding physical risks: heatwaves, glacier melt, GLOFs, and monsoon flooding that now arrive as near-annual, high-cost events. The core structural challenges are financing (a wide and, in the near term, widening gap between investment needs and actual allocations), implementation capacity at the sub-national level, and grid infrastructure that constrains the renewable-energy transition already under way. International climate finance, loss-and-damage support, and stronger domestic budgetary commitment are likely to remain the decisive variables shaping how well Pakistan manages this risk over the next decade.

Sources: State Bank of Pakistan Half-Yearly Report; Pakistan Economic Survey 2025–26; IMF EFF Third Review; UNDP Climate Promise; Pakistan NDC 3.0 (UNFCCC, Sept. 2025); Climate Change Performance Index 2026; Pakistan Meteorological Department; PIDE Climate Risk & Vulnerability Assessment.