

Advancing Adaptation: Mapping Costs and Enabling Financing

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Advancing adaptation: Mapping costs and meeting demand

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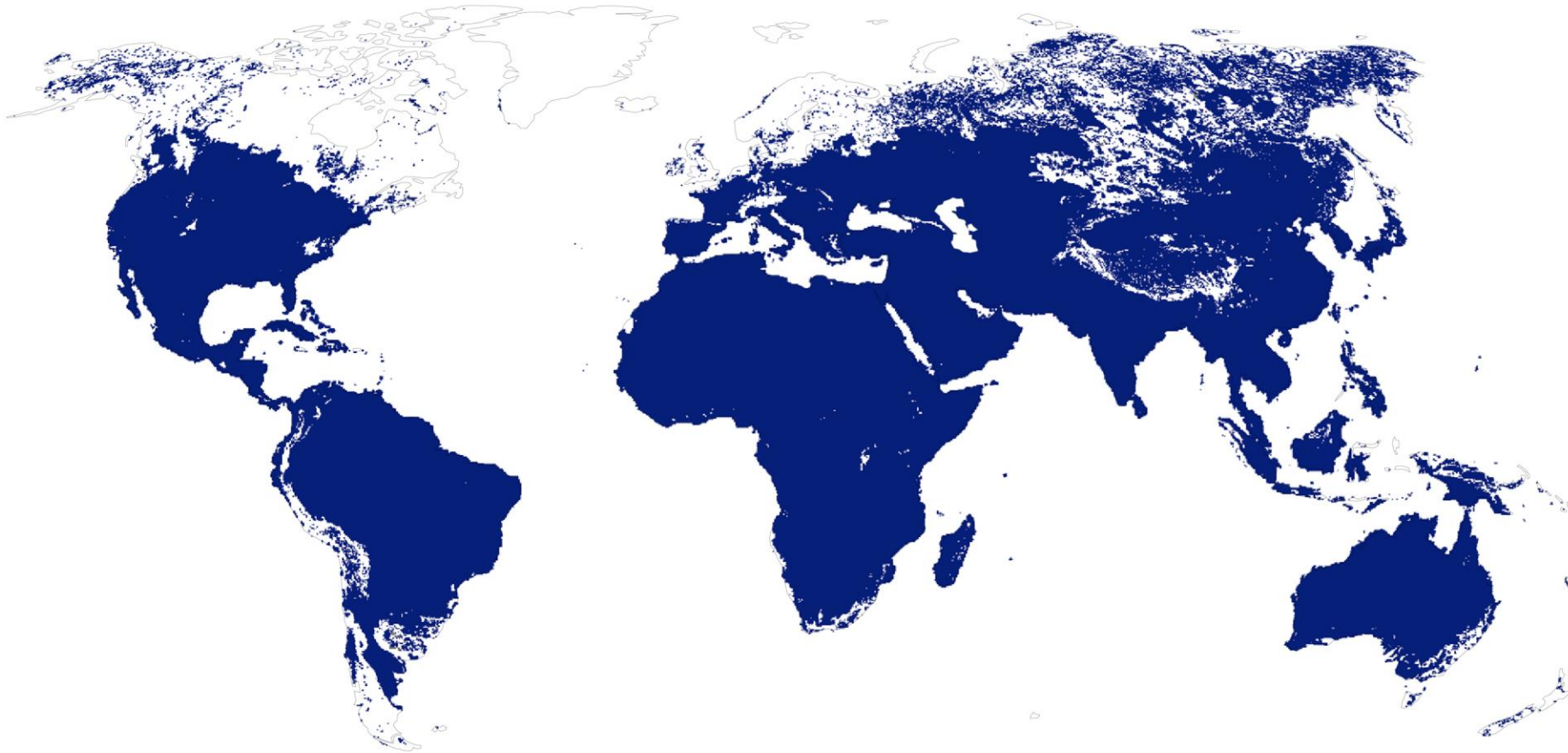
Explore the
research here



Today the world already faces various climate hazards, which will grow more widespread and severe with warming

Today

At 2.0°C



40%

of today's land area

75%

of land area at 2.0°C

Source: Advancing Adaptation: Mapping costs from cooling to coastal defenses, McKinsey Global Institute, December 2025

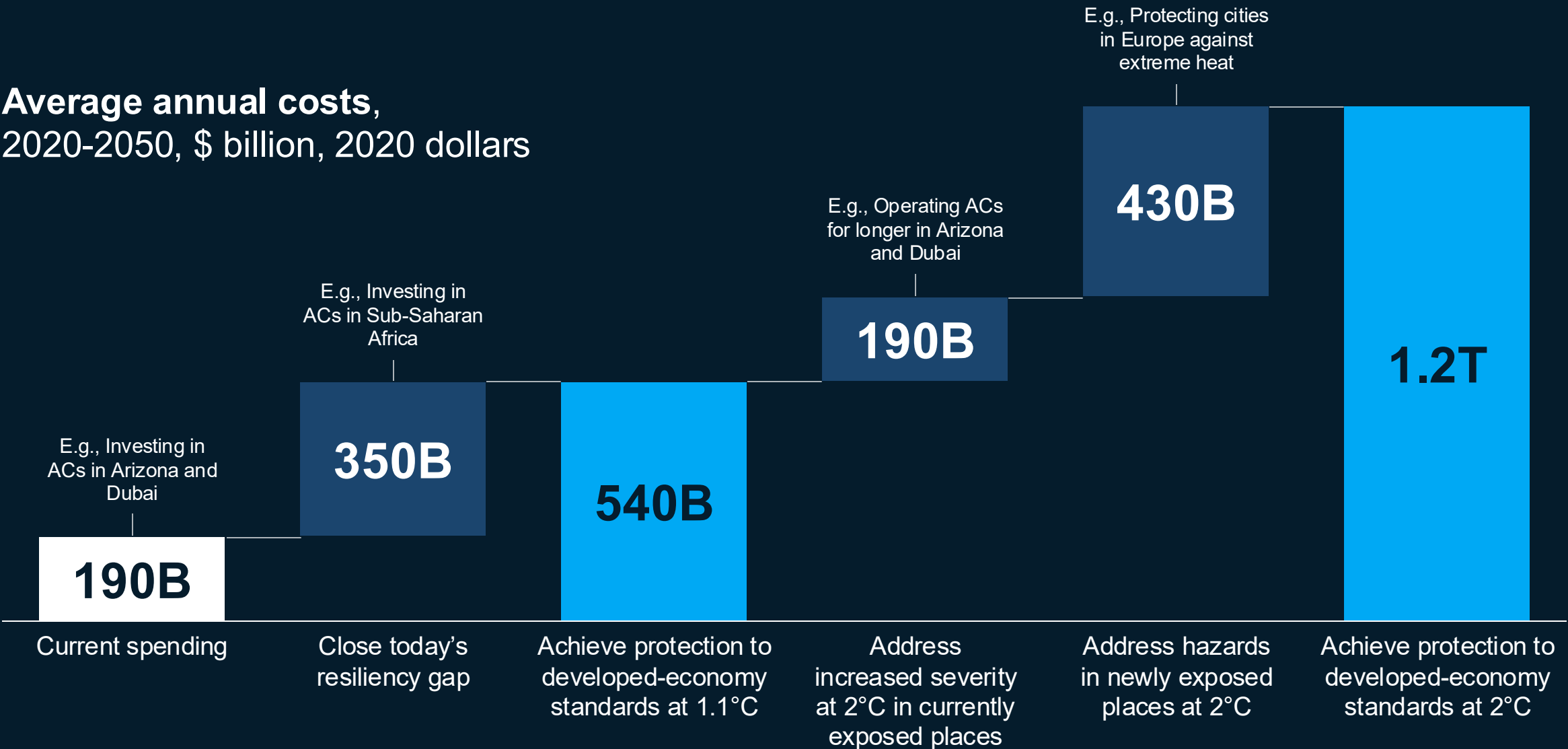
In response, many places have implemented proven, cost-effective adaptation measures

XX Solutions examined in this research

	Heat	Wildfire	Drought	Flooding	Multi-hazard
Reduce vulnerability	Active cooling (e.g., Air conditioning, fans) Cooling shelters for outdoor workers and vulnerable populations Personal cooling Urban trees Passive building cooling White roofs District cooling Cold-chain food transportation & storage	Undergrounding power lines Fuel management Retrofitting buildings with fire-resistant materials and better air filtration Defensible space guidelines Utility vegetation management & pole hardening	Irrigation Crop shade cover Drought-resistant seeds and livestock Seed priming Fertilizer application technology	Detention basins Stormwater networks Levees Swales Floodproofing Sea dikes Mangroves Dune and wetland restoration Permeable surfaces	Early warning systems Backup IT, power and water for critical systems Buffers for weather disruptions Diversification of production regions and logistics routes Supplier diversification
Reduce exposure	Working hours adjustments for outdoor workers	Seasonal closures / access management Land zoning in high wildfire risk locations	Herd management (early sales/preventative destocking)	Land zoning in high flood risk locations Managed retreat from at-risk coasts	Supply chain relocation

However, a resiliency gap remains and adaptation needs will grow as the climate warms

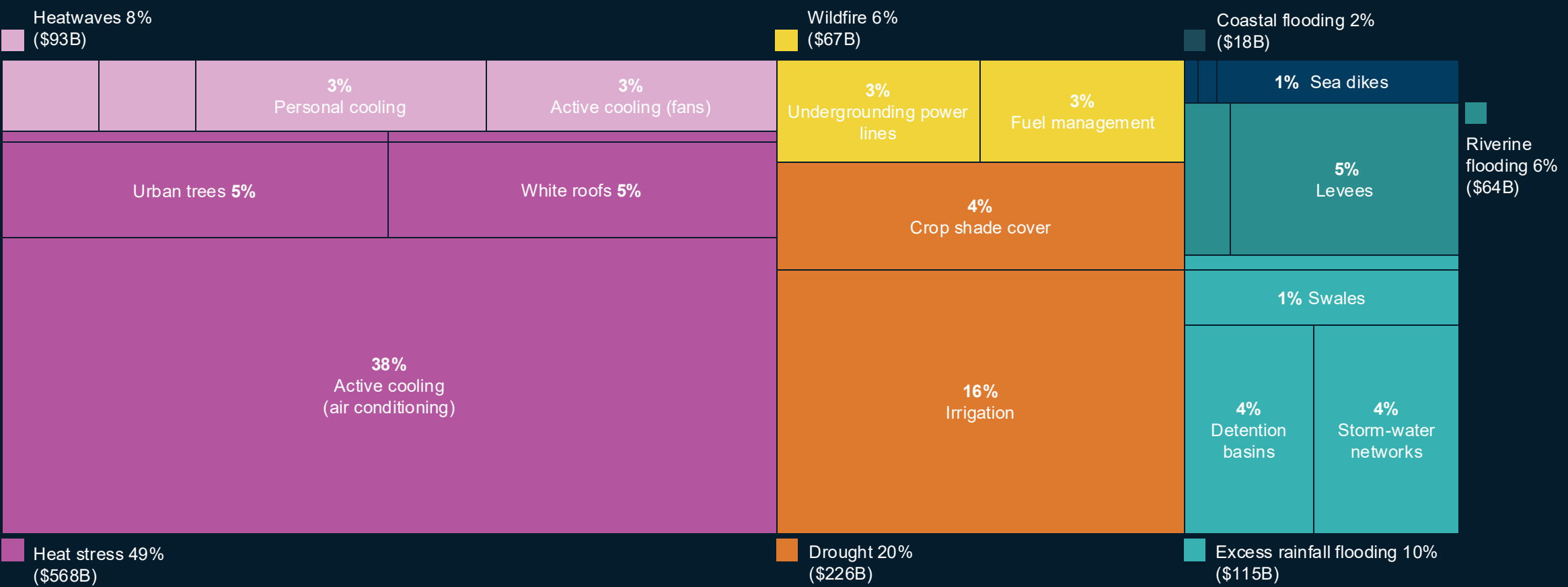
Average annual costs,
2020-2050, \$ billion, 2020 dollars



Heat and drought account for three-quarters of adaptation costs, with about half of all spend requiring private action

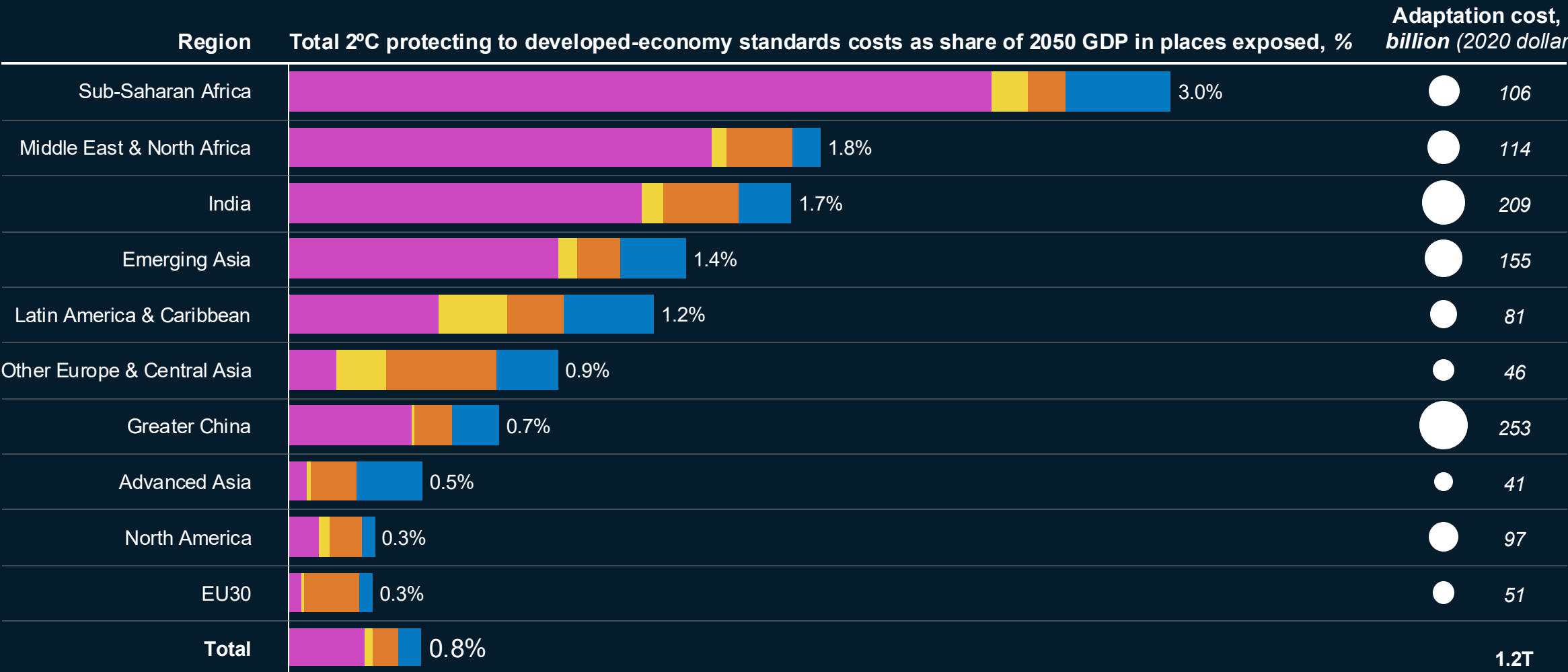
Distribution of annual costs to adapt to developed-economy standards at 2°C, 2020-2050, % of total, \$ billion (2020 dollars)

By hazard

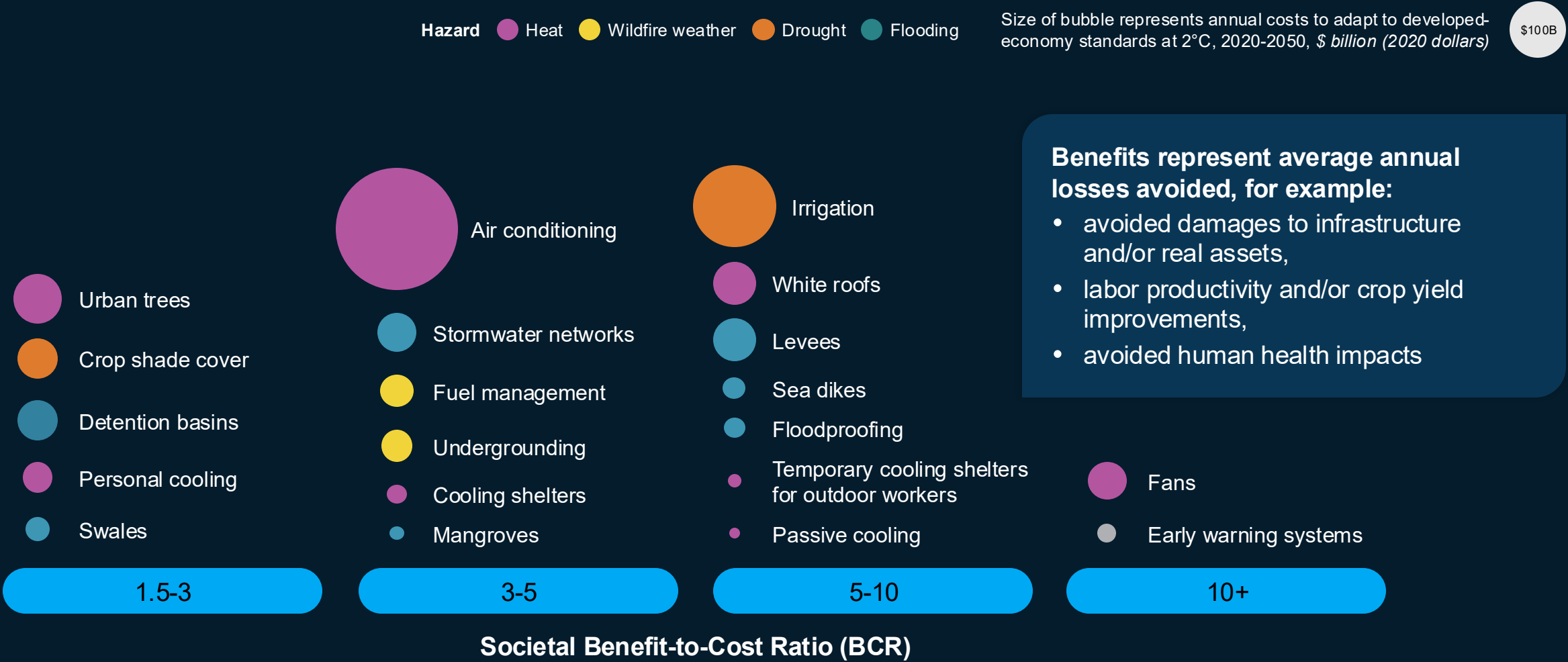


Sub-Saharan Africa, MENA, and India have the highest adaptation costs as a share of GDP

Heat Wildfire Drought Flooding



Adaptation is a good buy with BCRs of all measures > 1.5



Why is adaptation not happening despite being a good buy?

Capacity to pay

Protecting to developed-economy standards costs about \$130 per person today, but current spend is only \$45 per person; competing spending priorities also exist

Alignment of incentives

Funders of adaptation measures may not be the direct beneficiaries of protection provided

Nature of adaptation benefits

Benefits materialize only if hazards occur, which weakens incentives to invest

Risk awareness

Areas that have not experienced hazards recently underestimate risks, e.g., funding spikes after events (like LA wildfire), then fade

Risk appetite

Netherlands designs coastal barriers for 1-in-10,000-year events — vs. 100-year norm

Execution challenges

Supply chain, political will, technical, coordination, and other hurdles — e.g., decade-long talks for Netherlands' Room for the River program

Targeted responses can advance adaptation

Innovate to reduce costs

Efficient designs

Innovative, lower-cost solutions

Grants and subsidies to attract
private capital

Bolster demand and delivery

Beneficiaries pay and value
capture models

Resilience standards and
incentives

Payments tied to future savings
(insurance, utilities)

Engineer financing

Asset bundling and aggregation

Results based-financing

Pilots, demonstration projects