9TH ASIA-PACIFIC CLIMATE CHANGE ADAPTATION FORUM

UNEP-SDC:
BeCool India Programme

Benjamin Hickman

CO-ORGANIZERS

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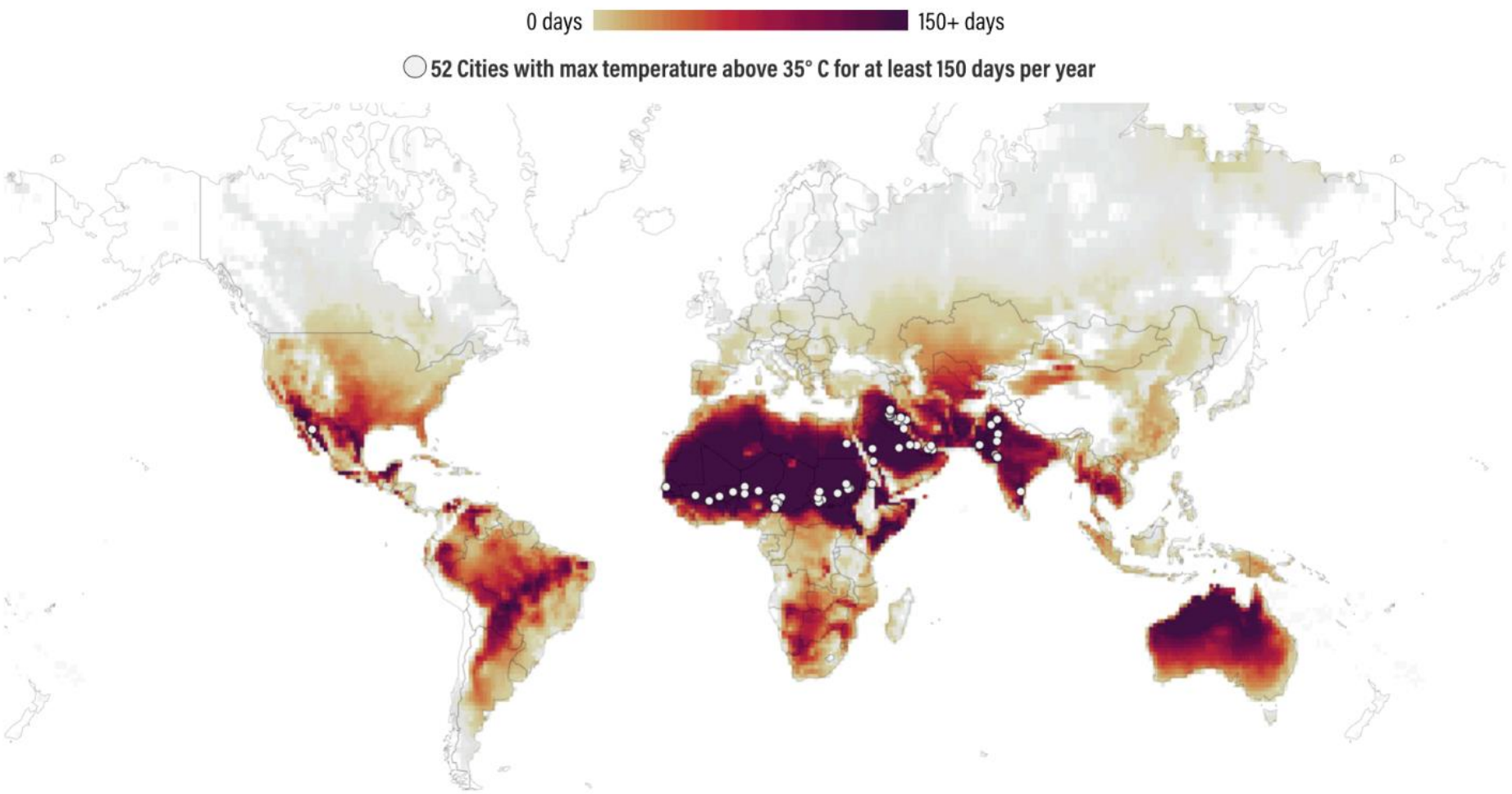
Days per year that max temperature exceeds 35° C | 1995-2014 AVERAGE



Source: Based on global scale projections from the IPCC Interactive Atlas.

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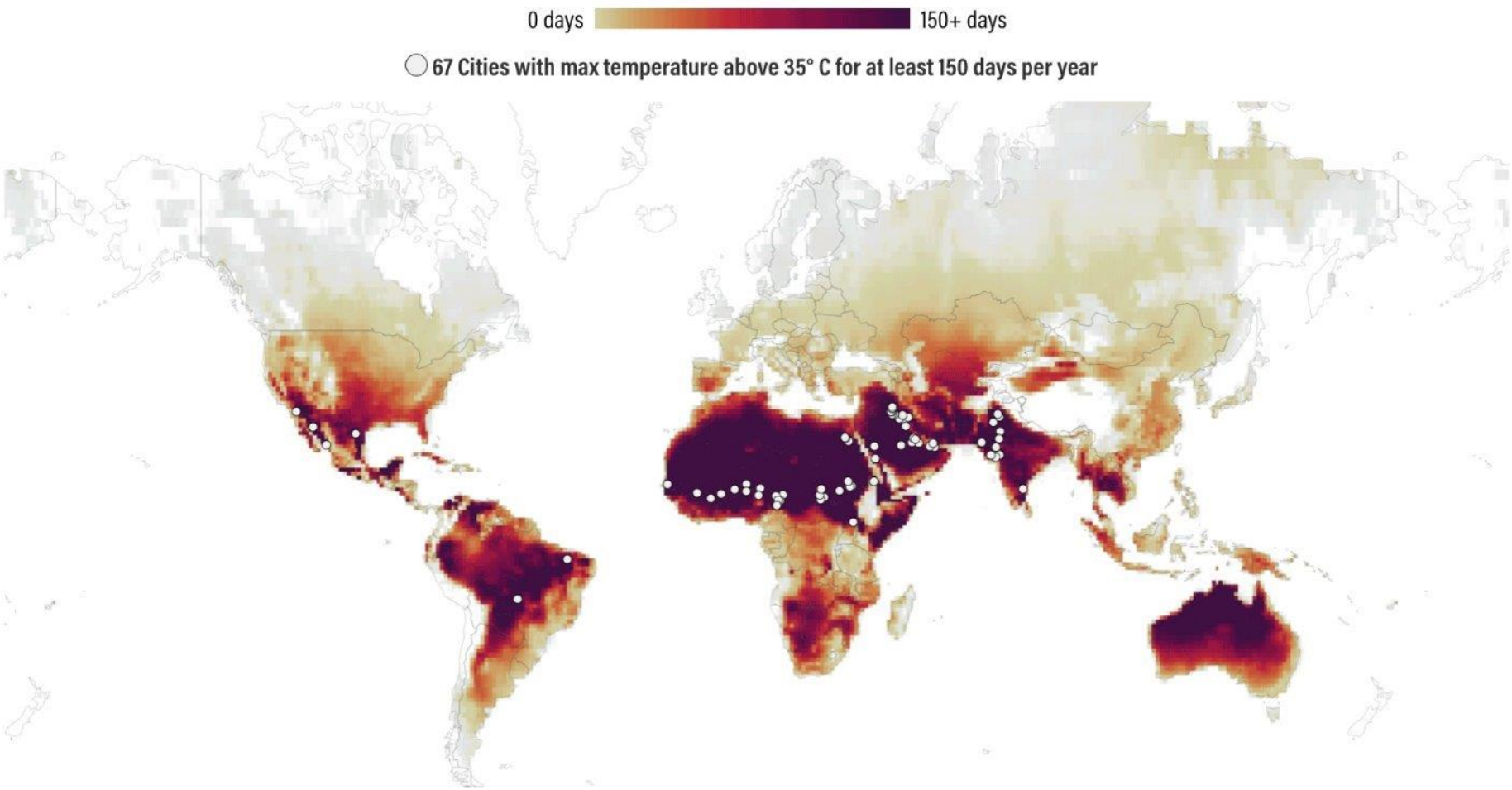
Days per year that max temperature exceeds 35° C | 1.5° C WARMING



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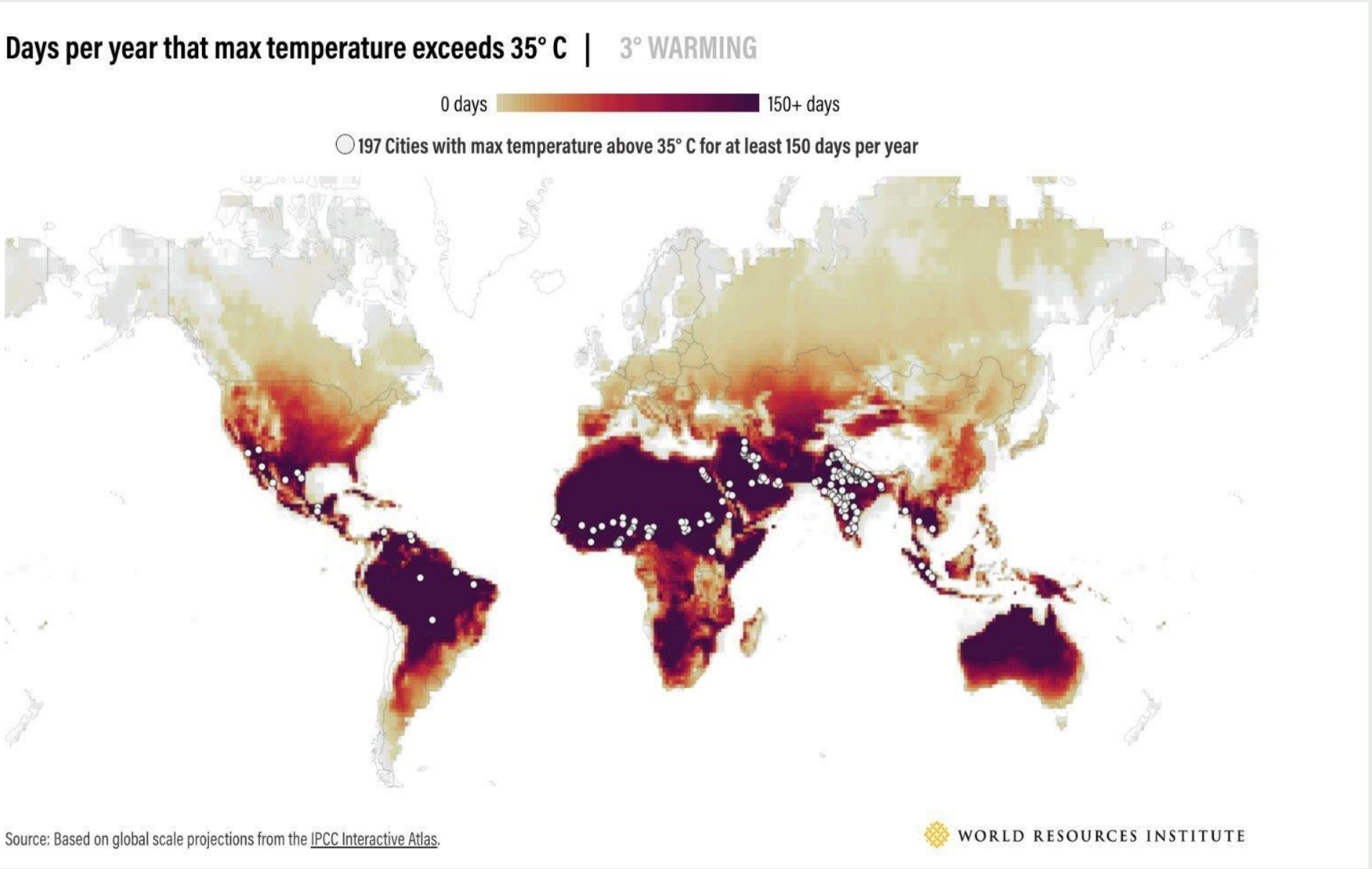

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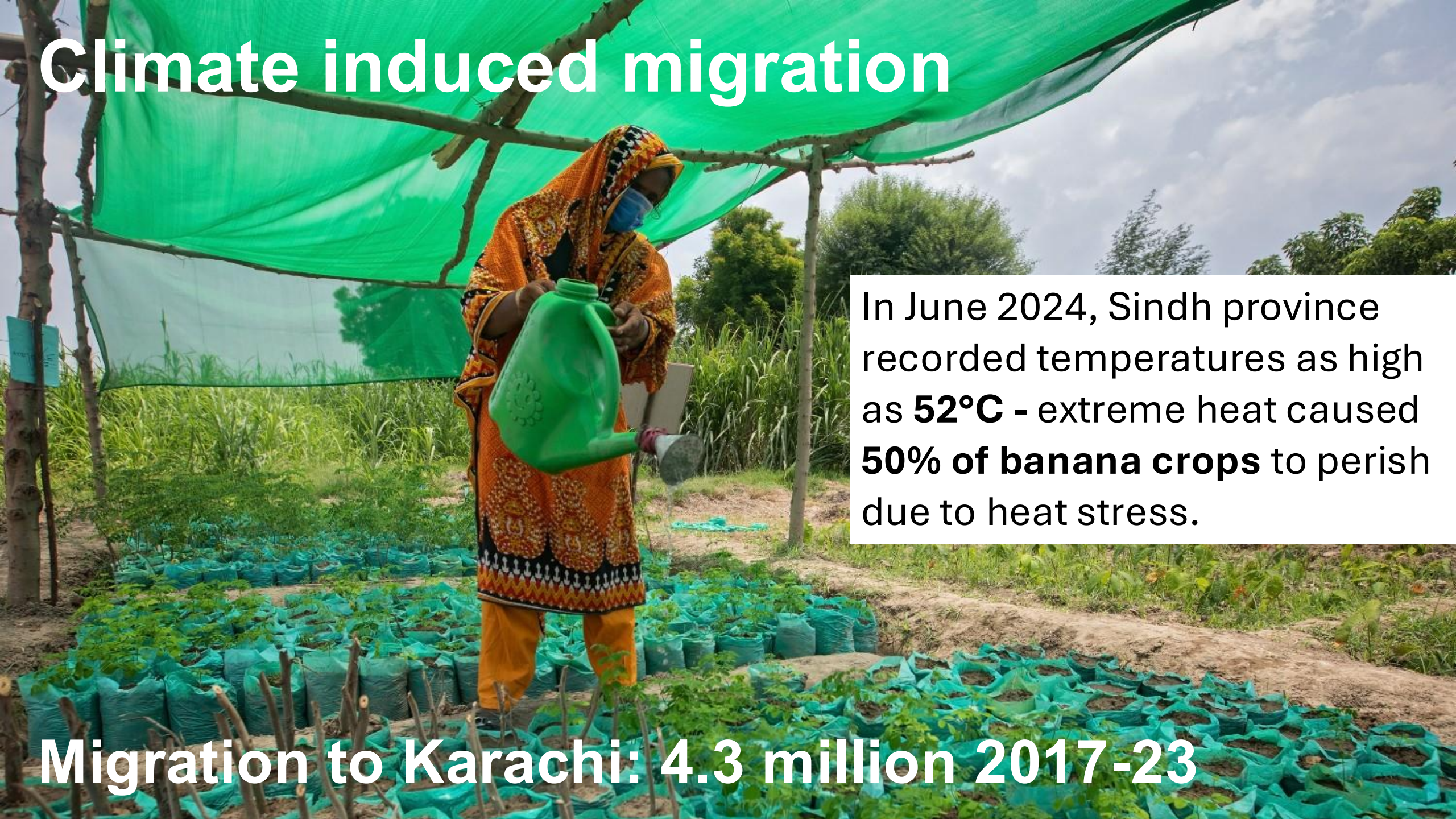
Karachi,
Pakistan

Climate induced migration



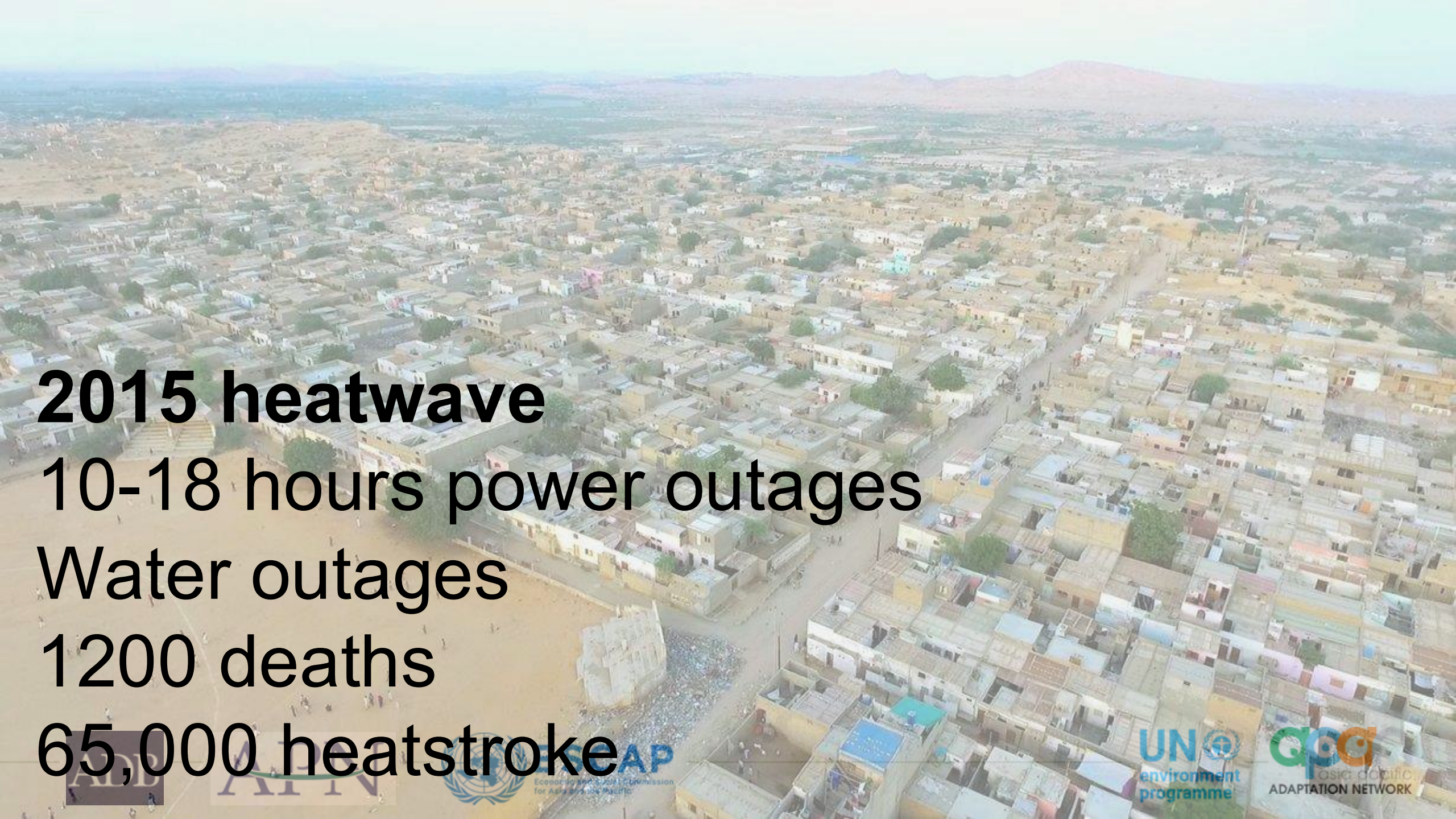
In June 2024, Sindh province recorded temperatures as high as **52°C -** extreme heat caused **50% of banana crops** to perish due to heat stress.

Migration to Karachi: 4.3 million 2017-23

Karachi, Sindh Province Pakistan

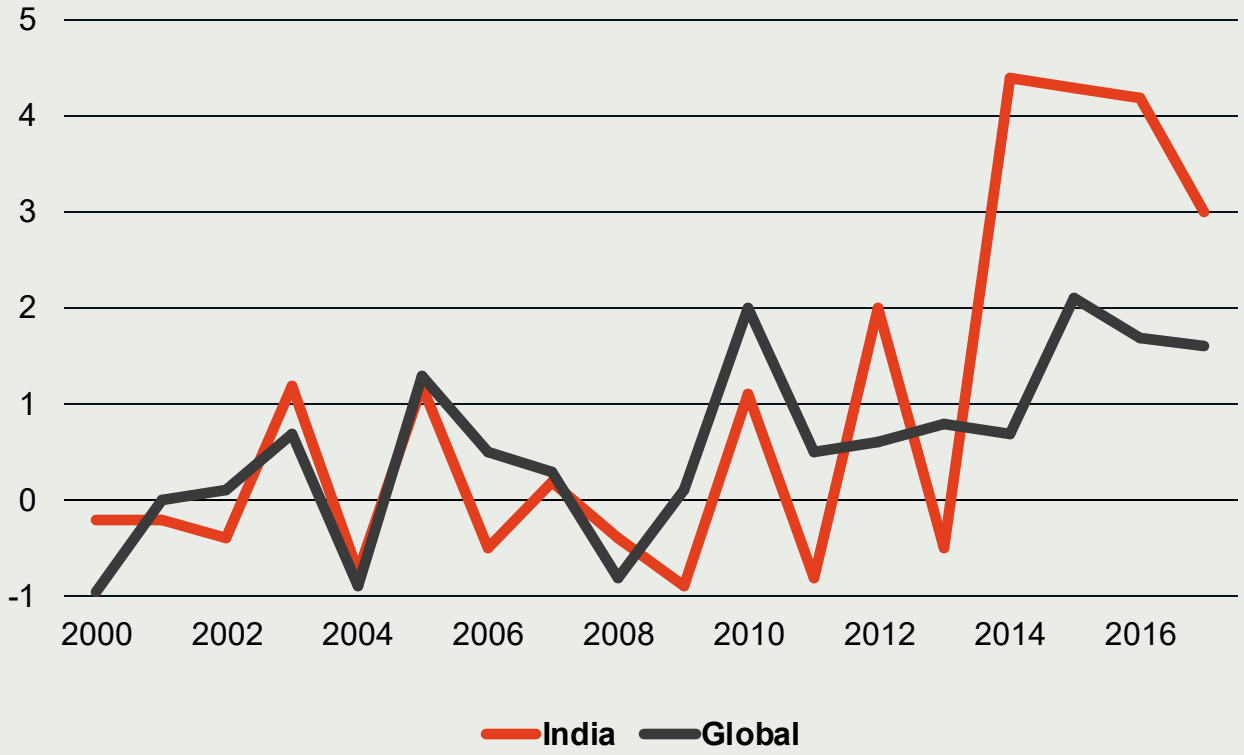
- 24 million population
- 55% in informal and unplanned settlements
- Less than 4% green space
- 22% of land for 62% of population
- 55% hours of thermal discomfort in hotspot slums

Canva Pro/ Umar Thanvil


2015 heatwave
10-18 hours power outages
Water outages
1200 deaths
65,000 heatstroke

- Tree planting in the city
- Urban forests effort
- Heatwave management plan
- Cooling stations
- Growth in quality social housing
- Demonstrations

Extreme Heat Risks



Average heatwave duration

- 1.1°C mean temperature rise:1900
- Significant population at risk
- Low access to cooling
- Decline in health and productivity
- Unequal vulnerability

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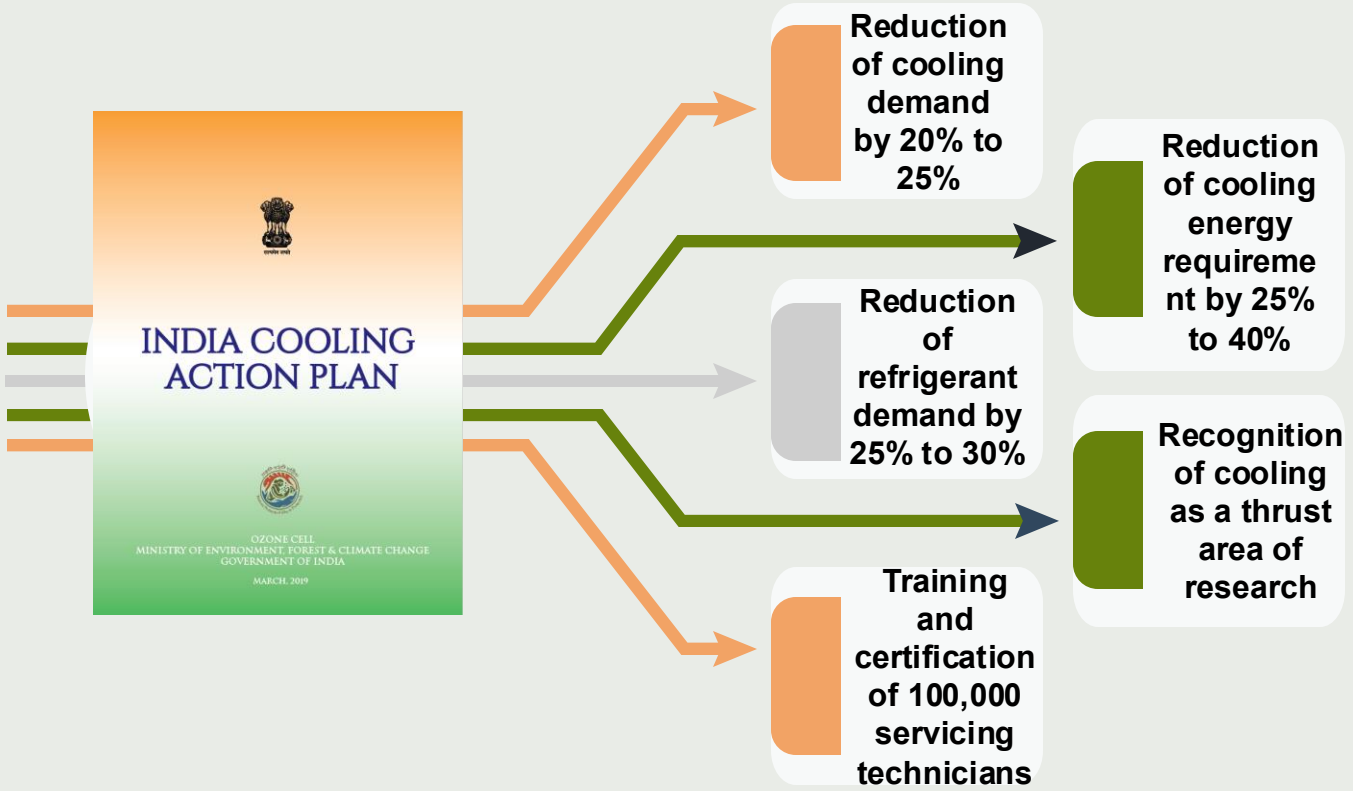
India Cooling Action Plan

Space Cooling | Cold Chain | Refrigeration | Transport Air Conditioning

- R&D and commercialization of low energy cooling technologies
- Accelerate
  - Reduction of cooling demand in buildings with ECBC
  - Adoption of adaptive thermal comfort
  - Energy efficiency of room air conditioners
  - Public procurement of EE cooling and service technicians
- Enable THERMAL COMFORT in affordable housing
- Policy harmonization
- Skill building~ 1 lakh service technicians



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India Cooling and Extreme Heat Programme

Support India to accelerate implementation of the India Cooling Action Plan (ICAP), SDGs, Nationally Determined Contribution (NDC) and Doubling Farmers Income

Support ICAP localization in states

National convening for policy and guideline development

Knowledge hubs and capacity building

Under-addressed areas:

- Passive cooling and sustainable building materials
- Heat resilient urban design and nature District cooling
- Horticulture cold chain
- Public procurement

Multi-donor

- Swiss Agency for Development and Cooperation (BeCool)
- Danida
- Germany IKI and BMZ
- ClimateWorks Foundation
- GEF
- UK government

Current scale through:

- UNCT collaboration
- Four global coalitions
- Eight ministries
- Eight states
- 20 cities
- 20 developers
- 40+ partners

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Affordable Housing in India

India needs 30 million affordable homes by 2030 including 10 million for low-income families yet most lack passive cooling and thermal comfort

- Speed and costs prioritized over heat resilience
- State and private sector ill-equipped for heat resilient and low carbon construction
- Private sector withdrawing: weak ROI
- Low awareness amongst beneficiaries
- High embodied carbon and lack of circularity of materials

POOR FAMILIES EXPOSED TO HEAT WITHHEALTH AND LIVELIHOODS RISKS

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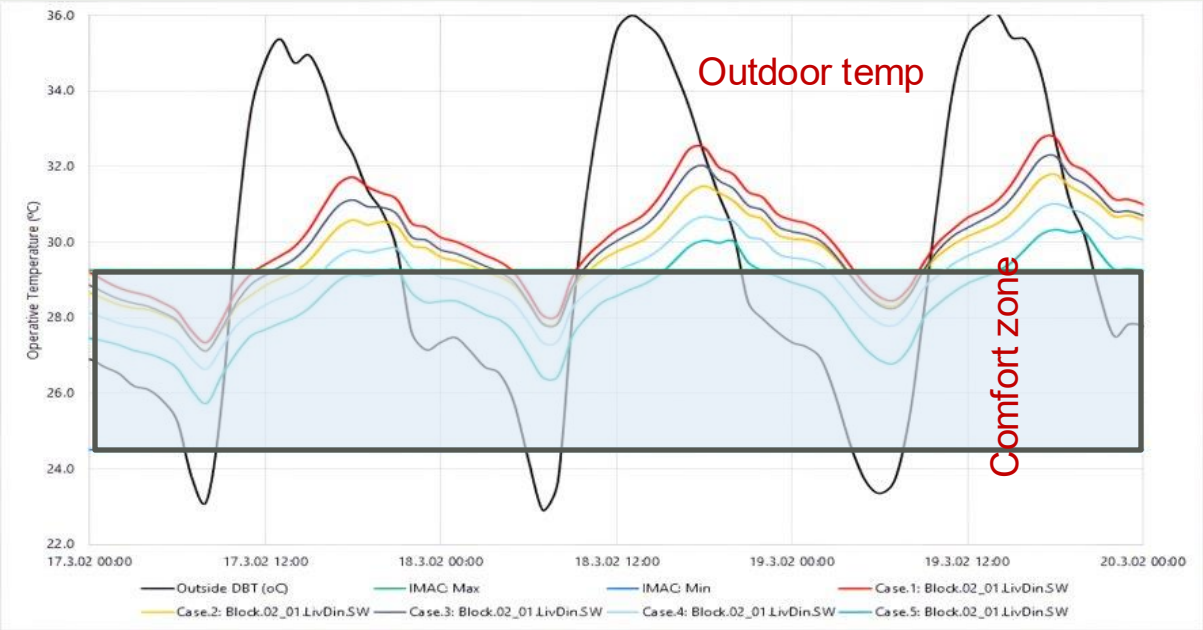
Passive Cooling and Building Materials

Passive cooling and building materials reduce indoor temperatures by atleast 3°C and cut electricity use by 35%



- 3°C – Indoor temp reduction
- 30-40% increase in comfort hours
- 35% electricity consumption reduction

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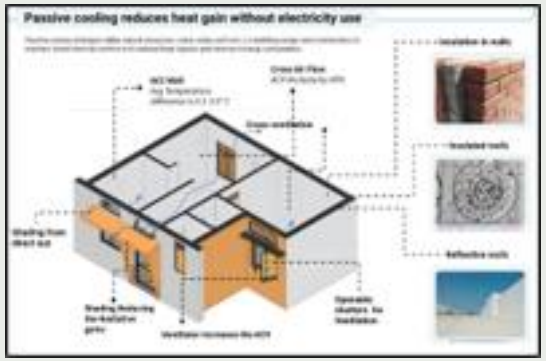
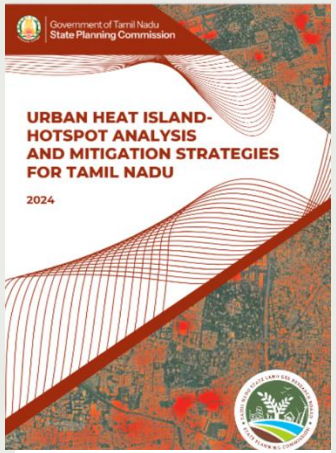
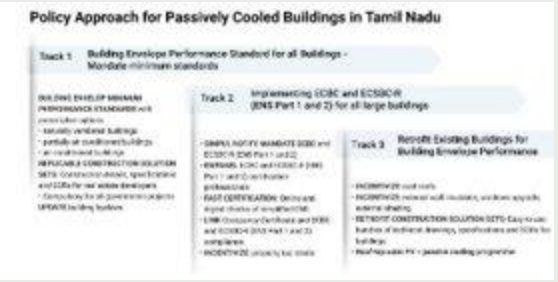
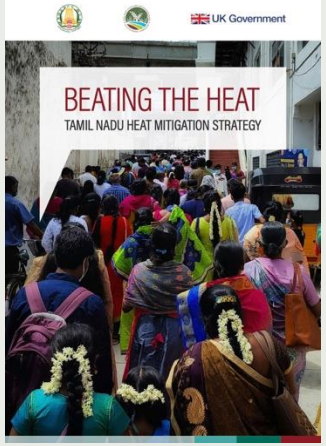
Cross-Ministry National Engagement

- Urban heat island assessment in NDMA Heat Action Planning Framework
- $1.5 billion National Disaster Mitigation Fund
- Advisory: cooling shelters and heat resilient housing
- Thermal comfort in affordable housing
- UHIE layers in national GIS based Master Plan Formulation Scheme
- NIUA Cool Cities Hub to drive city level action
- National Passive Cooling guidelines and compendium with Bureau of Energy Efficiency









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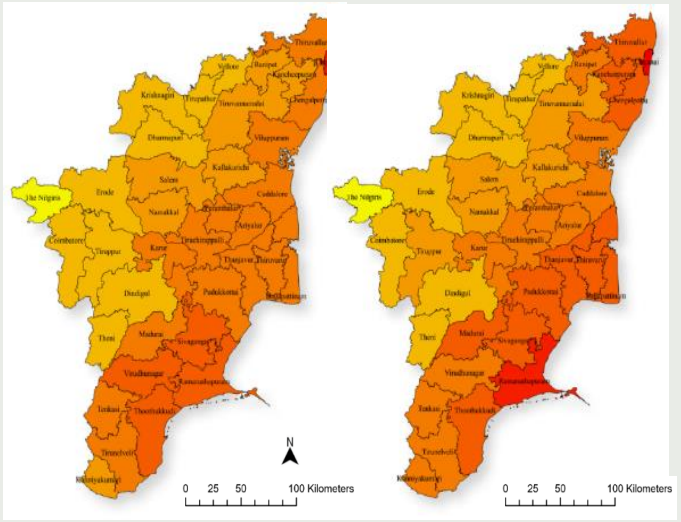
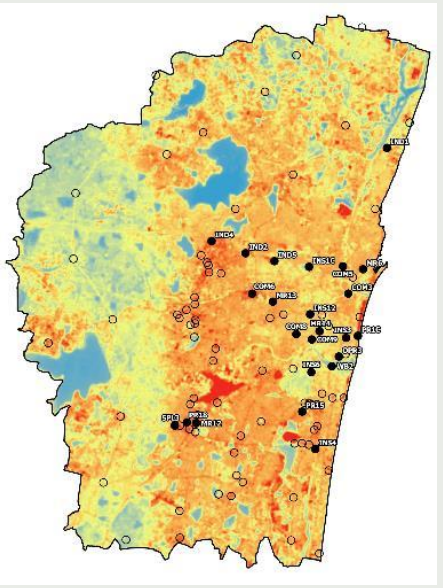
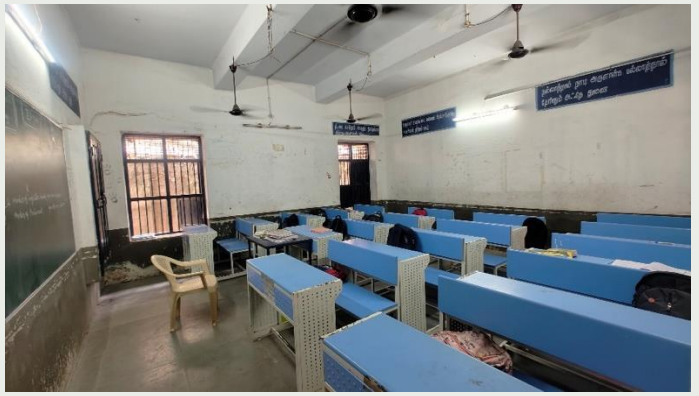
Sub-national Engagement

Tamil Nadu

- UHIE methodology developed and tested in Tamil Nadu
- Support in state heat mitigation plan
- Cool roof affordable housing pilot in TN
- Tamil Nadu 100 Green Schools Programme
- Worker and affordable housing pilots and finance mechanisms
- Tamil Nadu Combined Building and Development Control Rules update







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Sub-national Engagement

Delhi

- Delhi Cooling Action Plan 2027
  - Robust UHIE and heat vulnerability risk mapping
  - Financing
  - Cooling demand assessment
  - Pilot projects - Kashmere Gate Bus Terminal Cool Roof Pilot; district cooling

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THANK YOU