Heatproofing our cities: the need for a Global Heat Resilience Service

GEO Secretariat
WHAT IS GEO?

A voluntary global partnership that convenes experts from all over the world to make Earth observation data accessible to all.

We facilitate peer-to-peer engagement for open knowledge and data transfer and empower governments, communities, and countries to make informed decisions and protect people, nature and the planet.

In November 2023, ministers endorsed GEO’s new strategy to deliver Earth Intelligence for All. The vision calls for an inclusive GEO that leaves no one behind, and paves the way for strong partnerships among governments, businesses, academia and citizens.
Towards operational services:

EARTH INTELLIGENCE FOR ALL

Earth intelligence comprises integrated Earth and social science derived knowledge and insights that inform strategic decisions, build capacities and empower society to address environmental, societal, and economic challenges.
Simultaneous heatwaves are occurring across the northern hemisphere. Prolonged daytime temperatures well above 40°C (104°F). Extreme heat is a major hazard, and we must step up (WMO July, 2023)
Born into a climate crisis

Lifetime exposure to extreme events under Paris Agreement pledges for children born in 2020 compared to that of a person born in 1960.

- ×2
- ×2.8
- ×2.6
- ×2.8
- ×6.8
Twin challenge: climate change and urbanisation

IPCC Climate Change 2022: Impacts, Adaptation, and Vulnerability
The Working Group contribution to the IPCC Sixth Assessment Report
Twin challenge: climate change & urbanisation

<table>
<thead>
<tr>
<th>Region</th>
<th>Urban settlements</th>
<th>Population (millions)</th>
<th>Heat exposure (person days - millions)</th>
<th>Avg GDP 2015 (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>7'737</td>
<td>2'143.1</td>
<td>184.76</td>
<td>3'489.56</td>
</tr>
<tr>
<td>Africa</td>
<td>2'805</td>
<td>561.9</td>
<td>18.61</td>
<td>2'242.48</td>
</tr>
<tr>
<td>L. America &amp; Caribbean</td>
<td>1'076</td>
<td>350.8</td>
<td>4.10</td>
<td>8'643.81</td>
</tr>
<tr>
<td>Northern America</td>
<td>372</td>
<td>172.9</td>
<td>0.74</td>
<td>56'057.38</td>
</tr>
<tr>
<td>Oceania</td>
<td>86</td>
<td>19.0</td>
<td>0.02</td>
<td>37'299.56</td>
</tr>
<tr>
<td>Europe</td>
<td>1'059</td>
<td>287.7</td>
<td>0.01</td>
<td>27'098.75</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>13'135</strong></td>
<td><strong>3'535.3</strong></td>
<td><strong>208.2</strong></td>
<td></td>
</tr>
</tbody>
</table>

Global urban heat exposure trends (1986 – 2016)
Much of the burden of urban heat exposure is concentrated in the tropics, specifically Asia – with nearly 2/3 of all urban heat exposure (person days)
Global Heat Resilience Service

Building the foundation for heat resilient communities

a co-designed service that will provide every urban area in the world with data and knowledge on the health risks from exposure to extreme heat. These insights will help cities develop plans to adapt to heat and reduce the impact on citizens’ health and local economies.
Likely components of a Global Heat Resilience Service to respond to need identified in cities

Cities and their communities have appropriate risk knowledge for assessing and taking action in managing heat-health risks.

Data & information
- Scientific methodology
- Data accessibility & integration
- Decision-support tools

Institutional Capacity
- Skills & Training
- Systems & processes
- Policy / regulation

Engagement & awareness
- Community engagement mechanisms
- Social capacity / training
- Awareness raising

Identified gaps in existing support and services responding to extreme heat events

47.8% Heat policies and regulations
39.1% Advocacy/Awareness Raising
37.0% Additional Investment
34.8% Improved skills/capacity
28.3% More data/evidence
Global Heat Resilience Service

**Inputs**
- Meteorological and climate models
- Satellite-based mapping of people, infrastructure, and other assets
- Community-based mapping of heat and social vulnerability
- Socio-economic and public health data

**Outputs**
- Climate: current and projections
- Heat vulnerability mapping
- Decision-support platform for heat resilience planning
- Technical support, capacity building, and awareness-raising tools

**Outcomes**
- Cities can better understand risks from heat
- Cities can better address risks from heat through local solutions
- Cities can better communicate risks from heat to raise awareness

Engagement, partnerships, & capacity building
Timeline

- Co-developed a concept note with WMO and other partners
- Socialisation of project concept
- Launch of Heat solutions survey
- Scoping workshop in November 2023
- Partner engagement, expanded concept note
- Convening meeting, concept design workshop

2023

2024 >>>
Thank you!

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