Leveraging Earth Observations to address Heat Extremes

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On behalf of the GEO-Health Community of Practice Heat Small Work Group

The Challenge

1. Heat extremes are increasing at an alarming rate (F1).
2. “Record shattering” events are projected to increase in coming decades (F2).
3. Heat is now the deadliest type of climate hazard, globally (F3).
4. Extreme heat disproportionally harms vulnerable populations (F4).

The Work Plan

The GEO-Health Community of Practice Heat Small Work group has emphasized the following EO activities in its proposed work plan:

- **Document existing hazards** and proposed methods for triggering appropriate warnings and response.
- **Operationalize spatially explicit vulnerability assessment and warning systems** at kilometer or sub-kilometer scale.
- Generate retrospective analyses of **urban heat exposure**.
- **Track progress in forecast-based heat warnings**.
- Leverage EO to **project future heat wave risk** at high resolution.
- **Monitor seasonality and trends** in urban vegetation and other heat-relevant surface properties.
- Increase the number of studies that **integrate EO with dynamic population estimates and detailed health records**.
- **Evaluate long-term heat risks** projected by climate models relative to current operational heat alert triggers.
- **Estimate healthcare costs** of heatwaves and benefits of a heat health warning and intervention.
- **Engage** actively with relevant heat networks to advance use of EO.