Table 3: Climate Exposure Characteristics

| Climate Variable | Mean ± SD | Range | Units | Source |
|---|---|---|---|---|
| Temperature Exposure | | | | |
| Daily mean temperature | 25.0 ± 4.2 | -1.0 to 47.5 | °C | ERA5 |
| Daily maximum temperature | 28.5 ± 5.1 | 2.3 to 52.8 | °C | ERA5 |
| Daily minimum temperature | 21.5 ± 3.8 | -4.2 to 42.1 | °C | ERA5 |
| Diurnal temperature range | 7.0 ± 2.3 | 0.5 to 18.7 | °C | Calculated |
| Heat Stress Indices | | | | |
| Heat index | 28.3 ± 6.4 | -12.5 to 68.9 | °C | Calculated |
| Apparent temperature | 26.8 ± 5.2 | -8.2 to 55.4 | °C | Calculated |
| UTCI (thermal comfort) | 24.1 ± 4.8 | -15.8 to 48.3 | °C | Calculated |
| Wet bulb globe temperature | 22.5 ± 3.9 | -2.1 to 38.7 | °C | Calculated |

| Seasonal Distribution | Observations (%) | Temp Range | Season | Months |
|---|---|---|---|---|
| Summer (hot, wet) | 4,551 (25.0%) | 20-35°C | DJF | Dec-Feb |
| Autumn (mild, dry) | 4,551 (25.0%) | 15-28°C | MAM | Mar-May |
| Winter (cool, dry) | 4,551 (25.0%) | 5-25°C | JJA | Jun-Aug |
| Spring (warm, variable) | 4,552 (25.0%) | 18-32°C | SON | Sep-Nov |

| Extreme Heat Events | Frequency (%) | Threshold | Definition | Health Risk |
|---|---|---|---|---|
| Moderate heat stress | 2,184 (12.0%) | UTCI 26-32°C | Thermal discomfort | Low |
| Strong heat stress | 728 (4.0%) | UTCI 32-38°C | Heat strain | Moderate |
| Very strong heat stress | 182 (1.0%) | UTCI 38-46°C | Heat exhaustion risk | High |
| Extreme heat events | 36 (0.2%) | UTCI >46°C | Heat stroke risk | Very high |

| Climate Lag Analysis | Window | Variables | Coverage | Purpose |
|---|---|---|---|---|
| Immediate exposure | 0 days | All climate variables | 18,205 (100%) | Acute effects |
| Short-term lags | 1-7 days | Temperature, heat indices | 18,205 (100%) | Delayed response |
| Medium-term lags | 10-14 days | Temperature trends | 18,205 (100%) | Cumulative exposure |
| Extended lags | 21 days | Temperature patterns | 18,205 (100%) | Adaptation effects |

Notes:
• Temperature data from ECMWF ERA5 reanalysis at 0.25° spatial resolution
• Heat indices calculated using standard meteorological formulas
• UTCI = Universal Thermal Climate Index for thermal comfort assessment
• Extreme heat thresholds based on WHO/WMO guidelines for urban Africa