URBAN HEAT ISLAND

When towns and cities are warmer than the surrounding countryside by 1-4°C or more

WHEN AND WHERE

- Mostly mid-latitude cities.
- Mostly at night/early morning.
- Especially in anticyclonic conditions.
- Especially with clear skies/low cloudiness.
- Especially with light winds/calm conditions.
- Especially high density and tall buildings.

WHY

- Buildings (Brick + Concrete) retain heat/conduct heat better than soil/vegetation
- They release heat more slowly and for longer.
- There is a diurnal and seasonal time lag.
- Lower wind speeds in cities due to increased friction allow heat accumulation.
- Heat from buildings and fossil fuel burning in home, industry and transport.
- Particulate pollution and smogs trap outgoing solar radiation.
- More evaporation cooling occurs in rural areas.

IMPACTS

- Heatwaves more likely and more heat relate illnesses and deaths. Heat Stroke, Heat Exhaustion
- 2003 European heatwave caused an extra 35,000 deaths
- Global warming will increase the effect
- Increase use of aircon adds more CO_2 to atmosphere, enhances warming

POLICIES/STRATEGIES TO REDUCE

- Whitening of urban materials and surfaces to increase the albedo.
- Increase in vegetation cover, especially trees.
- More green roofs.