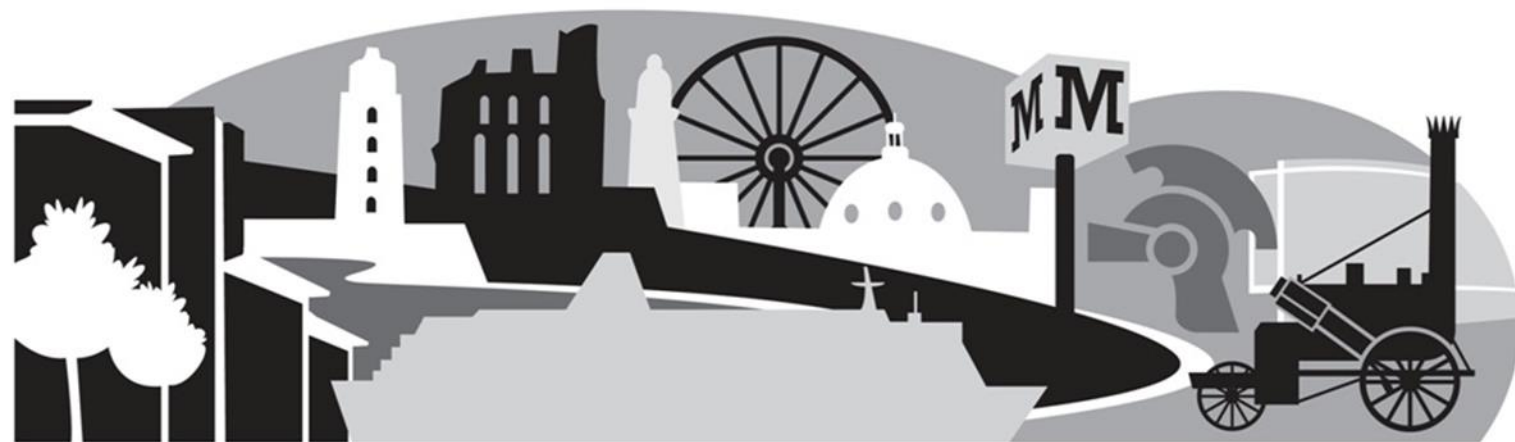


Climate Change – what does it mean for Health and Wellbeing in North Tyneside?



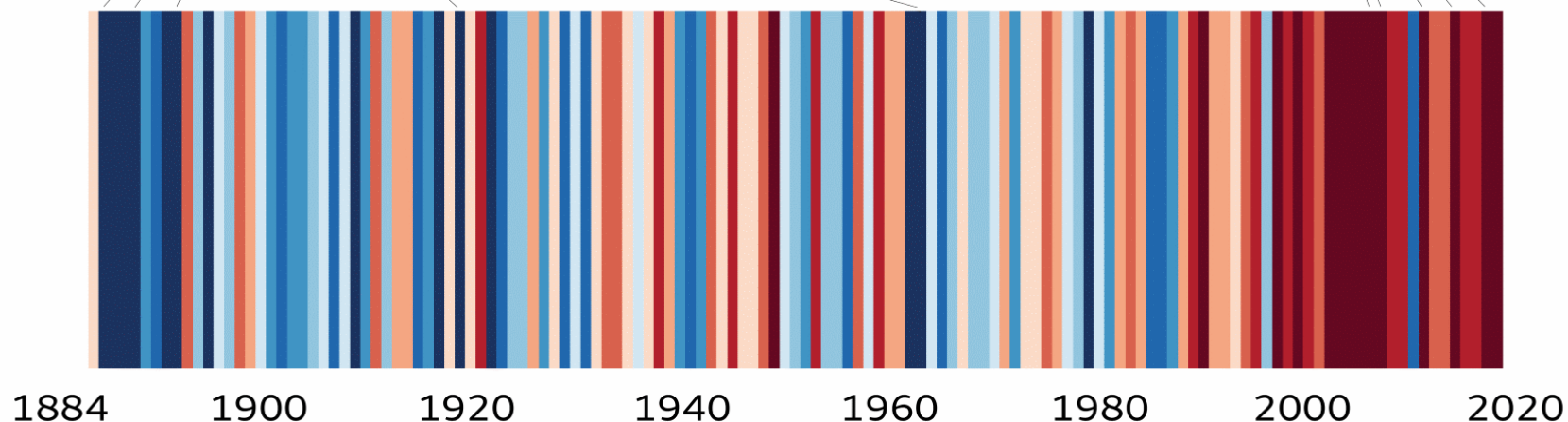
UK annual temperature

5 coolest years

1892, 1888, 1885, 1963, 1919

5 warmest years

2014, 2006, 2011, 2007, 2017



The five warmest years have all occurred since 2006. Cooler years are blue, while warmer years are red.



Trends in Weather

- Heat Waves
- Flooding
- Cold Snap
- Drought

Hot and bothered

2080 temps
today's temps ()

NORTHERN SCOTLAND
(23.3°C)

32.3°C

EASTERN SCOTLAND
(24.4°C)

35.4°C

NORTH EAST
(24.4°C)

WESTERN SCOTLAND
(24.9°C)

35.9°C

36.2°C

33.9°C

NORTHERN IRELAND
(24.9°C)

NORTH WEST
(26.9°C)

35.9°C

36.7°C

YORKSHIRE & THE HUMBER
(26.7°C)

EAST MIDLANDS
(28.5°C)

WEST MIDLANDS
(29.5°C)

37.5°C

39.5°C

EAST OF ENGLAND
(29.3°C)

38.3°C

WALES
(26.8°C)

36.8°C

LONDON
40.7°C,
105.3F
(30.7°C,
91.6F)

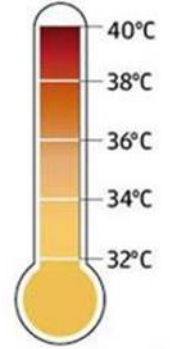
SOUTH WEST
(28.1°C)

38.1°C

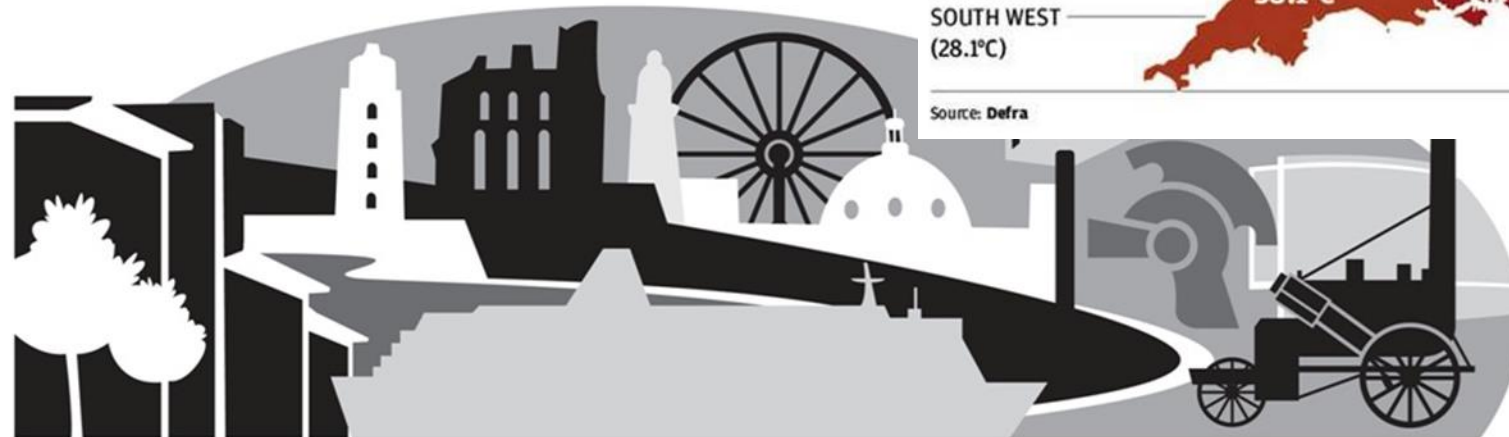
39.2°C

SOUTH EAST
(29.2°C)

Map key
HIGHEST TEMPS
REACHED BY 2080



Source: Defra



North Tyneside Council

Impact on health

- Heatwave, drought and cold snaps (prolonged events)
- Excess deaths (very young and over 75 years)
- Demand on resources and infrastructure
- Increased demand on health and social care
- Risk of fires





Record heatwaves in June and July 2019 caused the deaths of 1,435 people in France

Though extreme heat led to more than 15,000 deaths in 2003



North Tyneside Council

Fires a risk to health



**Marsden moorland fire:
'Apocalyptic' moorland
blaze' West Yorkshire**

Direct harms to health

**Air Quality – smoke and
particulate matter**



North Tyneside Council

Air pollution and impact on health

Types of health effects experienced by the most common pollutants at elevated levels:

Pollutant	Health effects at very high levels
Nitrogen Dioxide, Sulphur Dioxide, Ozone	These gases irritate the airways of the lungs, increasing the symptoms of those suffering from lung diseases
Particles	Fine particles can be carried deep into the lungs where they can cause inflammation and a worsening of heart and lung diseases
Carbon Monoxide	This gas prevents the uptake of oxygen by the blood. This can lead to a significant reduction in the supply of oxygen to the heart, particularly in people suffering from heart disease

In 2010 there were an estimated 101 excess deaths in North Tyneside attributable to PM_{2.5} air pollution (PHE 2014)



Long term exposure to
PM2.5

Long term exposure to
NO2

Stronger evidence of
association

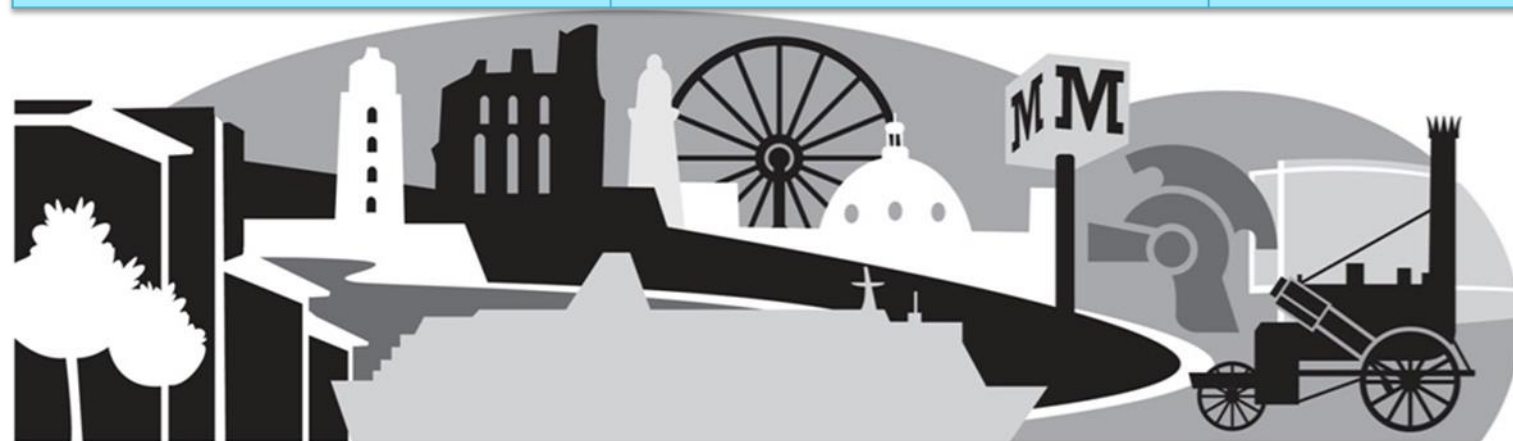
Coronary heart
disease
Stroke
Lung Cancer
Asthma (Children)

Asthma (Children)

Evidence **less certain**
or the evidence is
emerging

Chronic Obstructive
Pulmonary disease (as
chronic bronchitis)
Diabetes
Low Birth Weight

Asthma (Adults)
Diabetes
Lung Cancer
Low Birth Weight
Dementia



Weather conditions and air pollution

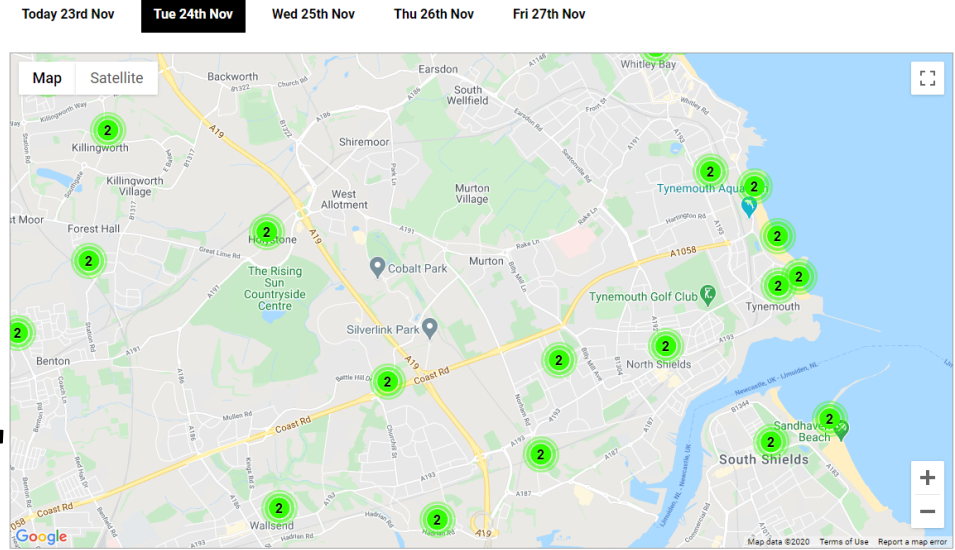
In winter, cold, still conditions can lead to an increased level of pollutants at ground level.

In summer, hot weather, without much wind can also lead to raised concentrations of pollutants.

Air quality measurement and forecasts

Air pollution is described as:

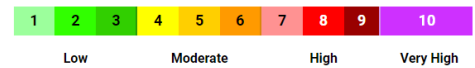
'Low (1-3)', 'Moderate (4-6)', 'High (7-9)' or 'Very High (10)' in relation to the presence of particulate matter, sulphur dioxide, nitrogen dioxide, carbon monoxide and ozone.



The nearest locations to your postcode region are shown below and highlighted on the map.

[What do the forecasts mean?](#)

[How are the forecasts produced?](#)

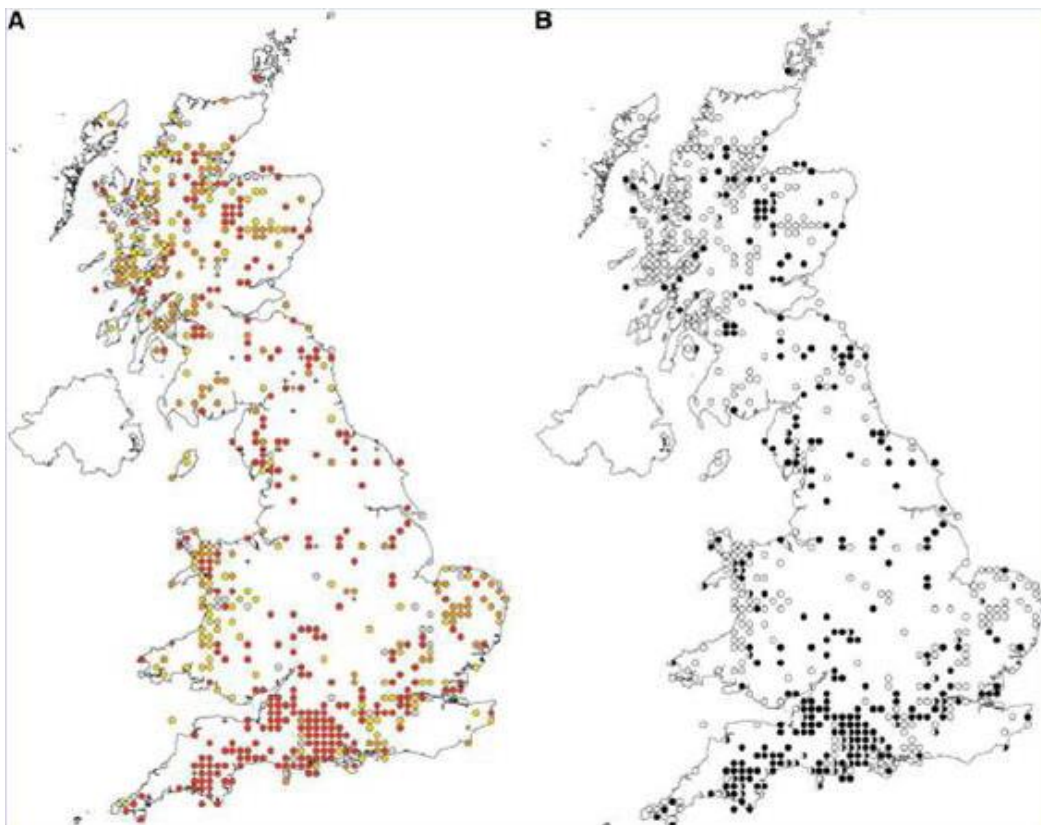


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Vector, food and water borne diseases

- Mosquitoes – number and species type is likely to increase (risk from malaria and other exotic diseases remains low)
- Higher spring and summer temperatures can directly affect the survival of ticks and influence their seasonal activity.

Map A and B shows the distribution of sheep/deer ticks 1970 – 2004 and 2005 – 2009. In both maps distribution in the NE is low.



Flooding

- Health Impacts
- Direct water related impacts i.e. death / drowning
- Gastrointestinal
- Psychological distress



Summary Climate Change and Impact on Health

Still a lot of uncertainty regarding the impact of climate change on vector and water borne diseases

- International and national surveillance e.g. Zika Virus and PHE Mosquito Surveillance
- Local Environmental Health and Health Protection arrangements for outbreaks

Known health risks relating to extremes in temperature (cold and heat)

- - North Tyneside Council has plans in place to protect residents

Known risks relating to air pollution

- - North Tyneside Council has develop a plan to improve air quality

Known risks regarding flooding

- North Tyneside Council has Flood Planning in place

Opportunities to use planning and policy development to mitigate the impact of climate change and improve health and wellbeing

- The Local Plan (housing quality and standards, transport planning etc...)
- Fuel poverty strategy

