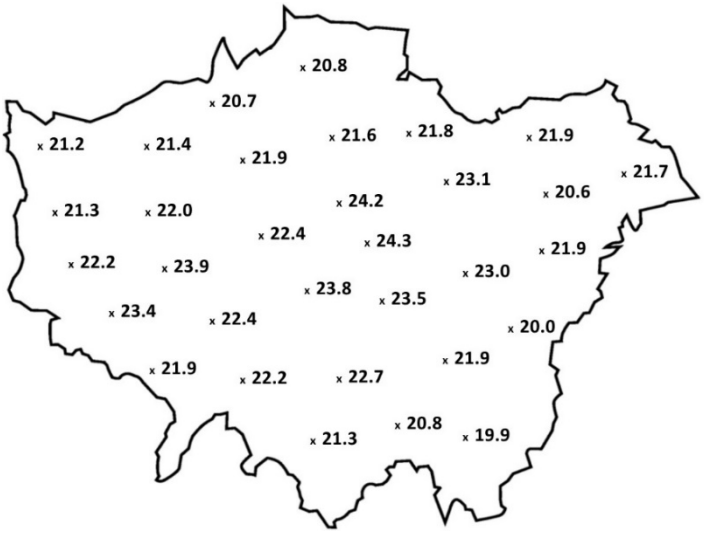
3i – A Guide to
Isoline Maps

Royal Geographical Society with IBG
Advancing geography and geographical learning

An **Isoline Map** is a way of presenting numerical data cartographically.

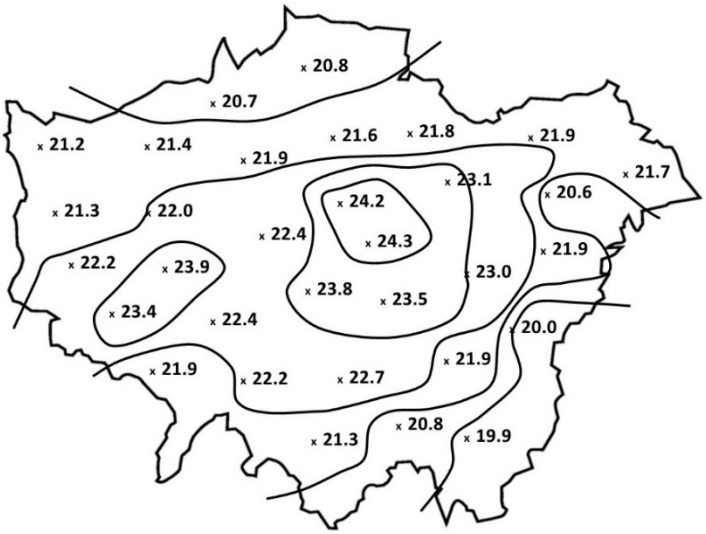
Why would we use an isoline map?

Isoline maps help the reader to recognise patterns and relationships between the geography of an area and data that might have been collected on the ground, such as air temperature.



An outline map of Greater London showing the maximum temperature (in °C) recorded on a given day in the summer.

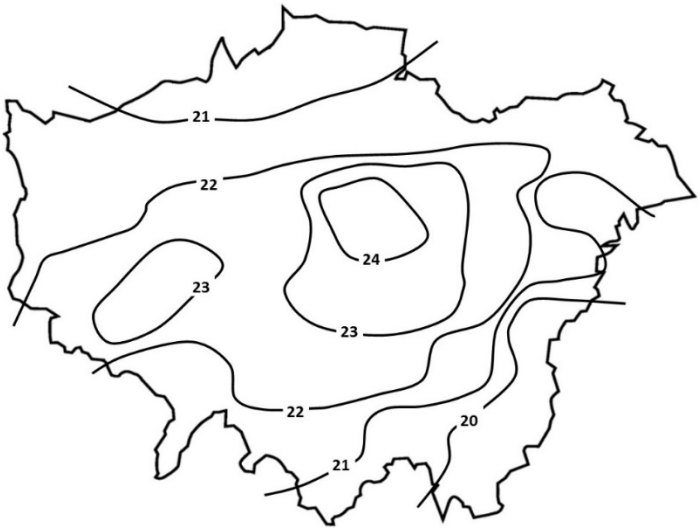
Isolines are lines drawn on a map connecting data points of the same value. They are commonly used by geographers. Contour lines, for example, show relief and connect points on the map that have the same height. Equally, isobars show bands of high and low pressure and connect points that have the same atmospheric pressure.



The same map with appropriate isolines used (at 1°C intervals).

Nuffield Foundation

This project was funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily those of the Foundation.



This map can be further simplified by removing the actual data points and only showing the isolines with their labels.

Isolines should have equal intervals between them numerically. The scale used (for example, whether the value goes up in tens or hundreds) depends on the nature of the data being used and at which scale the map will tell the reader the most information. As equal intervals are used, it is unlikely that an isoline will actually pass through every point that has been plotted, instead passing either side of the point depending on whether the value of the isoline itself represents a higher or lower value than the data point.

If the areas between the isolines are shaded in a choropleth fashion, the graphic is known as an **Isopleth Map**.