

Spatial distribution and association

The most common patterns formed are known as linear, scattered and clustered.

Linear distribution: eg. lined along the coast

Scattered distribution: eg. central Australia

Clustered distribution: eg. large urban settlements

Geographers also compare the distribution patterns of geographical features and look for connections between them.

Thematic maps

Environment maps

Environment maps show the natural features of the Earth such as land cover, mountains, rivers, deserts, lakes, seas and oceans. They also show urban areas and cropland.

Physical maps

Physical maps show the natural features of the Earth such as mountains, rivers, deserts, lakes, seas and oceans. They also show the height of the land and depth of the sea by using different colours.

Cadastral maps

Political maps show the human features of the Earth such as country, state and territory borders, cities and towns.

Dot distribution maps

Dot distribution maps use dots to represent a single feature. The dots show the location of the chosen features, are the size and colours of the dots can show different characteristics of that feature. When combined on a map, the dots form a spatial pattern.

Synoptic charts

Weather maps show conditions in the atmosphere such as air pressure, wind speed and wind direction. They also show the size and location of warm and cold fronts.

Choropleth maps

Thematic maps (cont)

Choropleth maps use different shades of the same colour to give a quick impression of the data being shown. Darker shades show the highest values while lighter shades show the lowest values or least amounts.

Flow maps

Flow maps show movement from one place to another. These maps are useful for showing the movement of goods, migration of people and animals, and transport and communications. Often the number of people or goods is shown by using lines of different widths or colours.

Isoline maps

Isoline maps use lines to join places of equal value for a given feature:

isobars = air pressure isohyets = rainfall

isotherms = temperature contours = height above sea level

isobaths = depth below sea level

Grid references

The vertical lines are called eastings and are numbered towards the east. The horizontal lines are called northings and are numbered towards the north.

In defining a 6-figure grid reference, the first three digits refer to the eastings and the last three digits to the northings.

The first two digits refer to the numbers on the grid lines; the third digit is obtained by dividing the grid square into tenths.

Eastings are always stated before the northings. The six digits are given without any spaces, commas or full stops.

Latitude and longitude

Lines that run from east to west are referred to as latitude and lines that run from north to south are called longitude.

The equator is 0° and the lines are numbered according to their distance north and south of this line.

The Tropic of Cancer is located at 23° 30'N and the Tropic of Capricorn is located at 23° 30'S.

The Arctic Circle is located at 66° 30'N and the Antarctic Circle at 66° 30'S.

The lines of longitude are called meridians.

Each degree is further divided into 60 minutes to make measurement even more accurate.

In 1884 the Royal Geographical Society met in Greenwich, London and established a common system, with 0° longitude (Prime Meridian) centred on Greenwich.

The meridians of longitude meet at 180°, which is the International Date Line.

Topographic mapping

Contour lines (or isolines) are lines that join together points of equal height above sea level.

The height between contour lines is called the contour interval.

When contours are close together, this indicates that the land is steep. When they are far apart, this means the land is flatter.

Cross-sections can be constructed across contour lines revealing the shape of the land in profile.

Round hill or volcano: concentric rings

Valley: sets of contour lines converging

Ridge: oval-like contour lines

Spur: sharp and obtrusive contour lines

Cliff: sudden close contour lines

Plateau: no contour lines near centre



Key Concepts

Environment: the product of physical processes such as geological, atmospheric, hydrological, geomorphic, biotic processes as well as human influences.

Change: any alteration to the natural or human aspects of places and environments over time and space (long term and short term).

Interconnection: the way that people and/or geographical phenomena are connected to each other through natural processes and human activities.

Sustainability: human activities being managed in a way that ensure an environment can be maintained in the long term.

Gross National Product

noun: the total value of goods produced and services provided by a country during one year, equal to the gross domestic product plus the net income from foreign investments.

Scale

There are four ways of stating scale:

Scale statement, eg. one centimetre represents 100,000 cm or 1 km.

Representative fraction/ratio, eg: 1/100 000 or 1:100 000

Linear/Line scale

Local scale - i.e. a local park, suburb, town or rural area

Regional scale - i.e. a larger geographical area

National scale - i.e. a single country

International scale - i.e. two or more countries around the world

Global scale - i.e. the entire planet

Mapping skills

A map is a graphic representation of a part of the earth's surface, drawn to scale.

BOLTSSAN:

Border	Scale
Orientation	Source
Legend	Accuracy
Title	Neatness

STEEPH (SHEEP) factors

Social: population size, dynamics, education, health, living conditions, crime, cultural, language, religion, workforce, ethnicity, class and gender.

Technological: technology, skills, crafts and knowledge.

Economic: wealth, profits, employment, investment, exports, trade balances, debt, taxes, currency, exchange rates, inflation, Gross National Product, wages and the costs of commodities and services.

Environmental: urban spaces, transport facilities, infrastructure, biosphere, atmosphere, lithosphere, hydrosphere, climate, rocks, minerals, soil, air, landforms, flora and fauna.

Political: laws, policies, regulations, tariffs, taxes, zoning, government controls, treaties and trade embargoes.

Historical: those factors which may not be operating today, but have occurred in the past and have left a lasting impact.

Direction and bearings

North, south, east and west are called the cardinal points. The points that give us a more specific indication of direction are the intermediate/sub-cardinal points.

True north: is the direction towards the earth's geographic North Pole.

Magnetic north: is the direction in which the magnetic compass needle points.

Direction and bearings (cont)

Grid north: is the direction of the vertical lines on a topographic map.

Compass bearings can also be used to state the direction of one place from another. They are calculated by measuring the angle, from the north, between the two points.

The bearing is calculated from a straight line constructed from the point of reference towards north, read in a clockwise direction. Due north is zero degrees.

Direction should be expressed in lower case unless part of a proper noun. It can be abbreviated to capitals in geographic media or when stating latitude and longitude, but should be expressed in complete form in text.

Defining location

Absolute location can be given as grid reference coordinates, in latitude and longitude or as an address.

More commonly, location is expressed as a relative location from another feature such as a capital, the CBD or the nearest post office, or adjoining countries, seas or oceans, or the direction within a general region.

To describe the location of a place accurately it is good to use a combination of these methods.

Distribution vocabulary

clustered	linear	dispersed
rows	random	parallel
grid	trellised	radial
dendritic	nucleated	dense
sparse	concentrated	predominantly

