

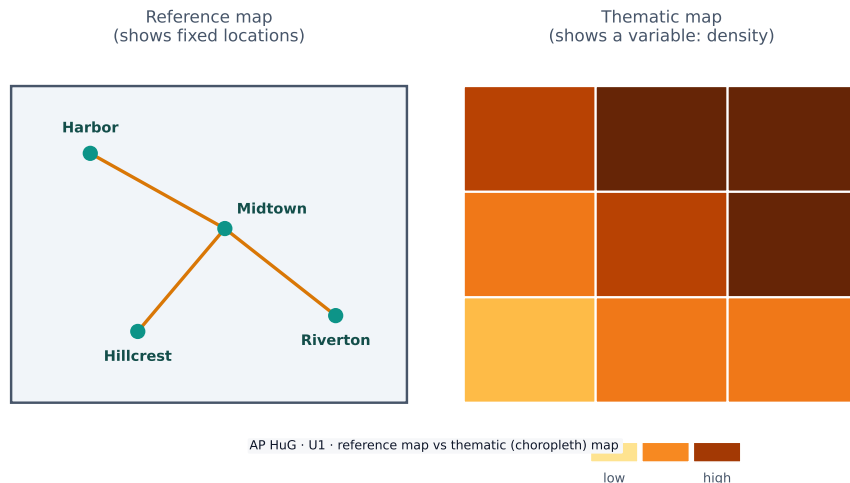
Thinking Geographically

AP Human Geography

Introduction to Maps

Geography is the study of **where** things are and **why** they are there. Its most basic tool is the **map** 地图 — a flattened picture of some part of Earth's surface.

Maps come in two big families. A **reference map** 参考地图 shows fixed locations — coastlines, borders, roads, cities (a road atlas or Google Maps). A **thematic map** 专题地图 shows how one variable changes across space — rainfall, income, or population density. AP Human Geography uses thematic maps constantly.



Reference maps show location; thematic maps show how a variable varies over space

Because Earth is a sphere and a map is flat, every map uses a **projection** 投影 that stretches the globe onto paper. Projections always **distort** 扭曲 something — shape, area, distance, or direction. The famous **Mercator** projection keeps direction correct (useful for sailing) but makes high-latitude places like Greenland look far too large. There is no perfect projection; a cartographer chooses one that fits the map's purpose.

Geographic Data



A dense urban skyline from above: maps and spatial data show how people are distributed on Earth

Geographic data 地理数据 is any information tied to a location. Geographers collect it in the field (counting, surveying, interviewing) and remotely with technology.

Key **geospatial technologies** 地理空间技术 you must know:

- **GIS** 地理信息系统 (Geographic Information System) — software that layers many kinds of spatial data so patterns can be compared.
- **GPS** (satellite navigation) — pinpoints exact location on Earth.
- **Remote sensing** 遥感 — gathers data from satellites or aircraft without touching the ground.

Data also comes from written sources: field observations, media reports, travel writing, policy documents, interviews, and photographs.

The Power of Geographic Data

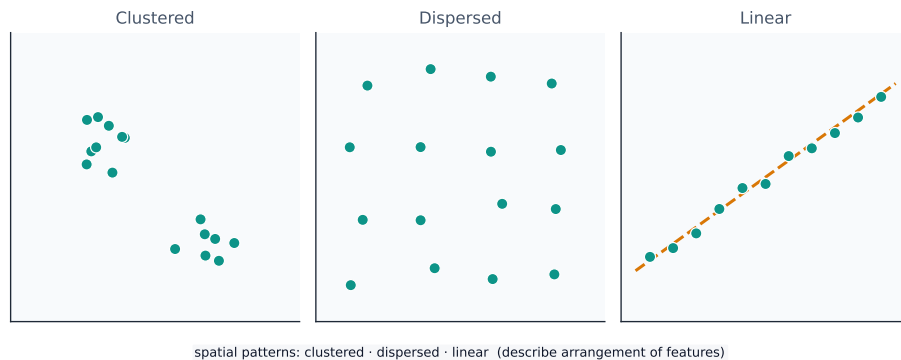
Data is powerful because it drives **decisions**. Businesses use it to choose store locations, governments use census data to plan schools and roads, and aid agencies use it to send help after a disaster.

But data is never neutral. Who collects it, which categories they use, and how a map is drawn can all **shape the message**. A map can inform — or it can mislead — so a good geographer always asks where the data came from and what it leaves out.

Spatial Concepts

Geographers describe location and pattern with a precise vocabulary.

- **Absolute location** 绝对位置 is an exact address — latitude and longitude. **Relative location** 相对位置 describes a place by what is near it (“north of the river”).
- **Absolute distance** is measured in kilometres; **relative distance** is measured in time, cost, or effort.
- **Space–time compression** 时空压缩 is the shrinking of the *felt* distance between places as transport and communication improve.
- **Distance decay** 距离衰减 means that interaction between two places weakens as the distance between them grows.



Points can be clustered, dispersed, or arranged along a line — the spatial pattern is itself data

A **spatial pattern** 空间格局 is how things are arranged: **clustered** 聚集 (bunched together), **dispersed** 分散 (spread apart), or **linear** (along a line such as a road). Reading the pattern is the first step in explaining *why* it exists.

Human-Environmental Interaction



Urban sprawl at the city edge: human–environment interaction reshapes landscapes

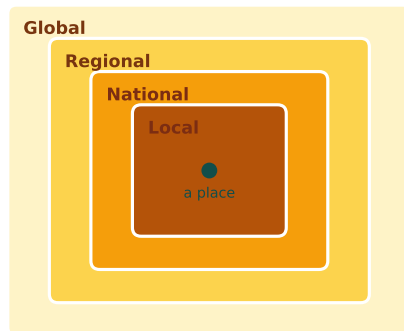
People and the environment shape each other. Three older ideas describe this:

- **Environmental determinism** 环境决定论 — the (now rejected) claim that the physical environment *determines* how a culture develops.
- **Possibilism** 可能论 — the accepted view that the environment sets limits, but people **choose** how to respond using technology and culture.

The **cultural landscape** 文化景观 — farms, cities, and roads built on the land — is the visible result of this interaction. Sustainability asks how people can use natural resources without using them up.

Scales of Analysis

Scale of analysis 分析尺度 is the level at which you look at data — **global, regional, national, or local**. The same pattern can look completely different at different scales.



AP HuG • U1 • scales of analysis nest inside one another

The same place nests inside larger and larger scales — the scale you choose changes the pattern you see

For example, a country may look wealthy at the **national** scale, yet contain very poor neighbourhoods at the **local** scale. Zooming in or out — **changing the scale** — reveals patterns that were hidden before. Exam questions often ask you to explain a process “at various scales.”

Worked example (a real AP exam question). *“The map focuses on a regional scale. Explain a possible limitation of drawing country-scale conclusions from a regional-scale map.”* (2025) A full-mark answer: *“The map shows only one region, so its pattern may not represent the whole country — other regions could look very different, so a conclusion drawn at the regional scale would be inaccurate at the country scale.”* The command word **Explain** asks for reasoning: state the limitation **and** say why changing the scale changes the pattern. Just writing “the scales are different” does not earn the mark.

Regional Analysis

A **region** 区域 is an area with one or more shared features that make it different from surrounding areas. Geographers use three types:

- **Formal (uniform) region** 均质区域 — everyone shares a measurable trait (a country, a wheat-growing belt, a language area).
- **Functional (nodal) region** 功能区域 — organised around a central **node**, like a city and its commuter zone or a pizza shop’s delivery area.

- **Perceptual (vernacular) region** 感知区域 — defined by people’s feelings and beliefs, with fuzzy borders (the “American South”, the “Middle East”).

Regions are made by geographers, not found in nature — so their borders can be argued about, which is exactly why they are useful for analysis.

Exam tips

- Always name a **map projection’s** trade-off: what it preserves versus distorts (Mercator keeps direction but exaggerates area).
- State whether data is **quantitative** or **qualitative**, and match a source (**GIS**, **GPS**, **remote sensing**, census) to its use.
- Distinguish **absolute** from **relative location**, and use **distance decay** and **time-space compression** in any flow answer.
- Mind the **scale of analysis**: a national average hides local variation — say so explicitly.
- Classify every region as **formal**, **functional**, or **perceptual**, and justify it by the defining trait.