Basics of World Geography Study Guide

From Simple Studies, https://simplestudies.edublogs.org & @simplestudiesinc on Instagram

Geography- Study of the **features of earth** and its atmosphere and how **human activity** (distribution of populations/resources, land use, and industries) **affects** and is affected by these features.

Location:

- Where a **particular place** is found on the earth.
- Geographers will locate places by using the natural divisions of the land and sea.

Continents and Oceans:

Continents

- Large bodies of land surrounded or nearly surrounded by water.
- Earth is **70% water** and the remaining 30% is land. Mankind only inhabits half of that area, meaning people live on only 15% of earth's surface.
- The land areas of the earth have been separated into seven land masses called **continents**.
 - Largest to smallest: Asia, Africa, North America, South America, Antarctica,
 Europe, and Australia
 - Asia is the most populous, then Africa, Europe, the Americas, and finally Australia.

Regions

- Areas that have distinct characteristics in common like climate, culture, economics, and topography.
 - Topography- The shape and elevations of the land.
 - For example: Asia's regions are the following: Central Asia, East Asia, South Asia, Southeast Asia, and Western Asia.

Oceans

- The largest and deepest ocean is the Pacific Ocean.
- The deepest point on earth is the *Mariana Trench*, located in the Pacific in a place called *Challenger Deep*. (A canyon on the Pacific Ocean's floor and has a depth of approximately 35,827 feet.)
- Next in size is the **Atlantic and Indian Oceans.** (The Indian Ocean is also the warmest.)
- The smallest/most shallow ocean is the Arctic Ocean, which is also the coldest of the oceans.

Seas and Gulfs

- **Bodies of water connected to an ocean** but partly enclosed by land.
- Two of the largest seas, the *Mediterranen and the Caribbean*, are located on opposite sides of the Atlantic Ocean.
- The *Sea of Okhotsk and the Sea of Japan* are connected to the Pacfic and are located near Russia and Japan.

Latitude and Longitude:

Parallels of Latitude- The lines that run east to west (horizontally/left to right) across the globe.

Equator- Imaginary line that **divides the earth equally into two hemispheres** between the two poles (north and south).

- Other than the Equator, there are four other parallels of latitude that should be remembered: the tropic of Cancer, tropic of Capricorn, Arctic Circle, and Antarctic Circle.
 - The *tropic of Cancer and the tropic of Capricorn* are approximately 1,600 north and south of the Equator.
 - The *Arctic Circle and the Antarctic Circle* lie about 1,600 miles from the North and South Poles.

Lines of Longitude (meridians)- The lines that run north and south (vertically/up and down) around the globe and then come together.

- The term *meridian* comes from the Latin word *meridianus* which means "midday".
 - Meridians are used to distances that are east to west of the prime meridian.

Prime Meridian- Located at **0 degrees longitude**, and it divides the earth into the Eastern and Western Hemispheres.

- On the opposite side of the globe, the *International Date Line* zig zags (mostly) along the 180 degree longitude and through the middle of the Pacific Ocean.
- The *prime meridian and the International Date Line* are mainly used for **classifying time** and marking the change of days and dates as the earth rotates.

Lines of latitude and longitude are **identified by degrees.** (i.e. the prime meridian is at 0 degrees longitude).

- Degrees of latitude (minus the Equator) should always be followed by a capital N or S, while degrees of longitude (minus the prime meridian and 180 degrees) should be followed by a E or W. Each degree is divided into 60 minutes. (i.e. The tropic of Cancer and Capricorn lie at 23°27'N and 23°27'S latitudes)
 - o 23°27'N is read as 23 degrees, 27 minutes north.

Coordinates- The point where the parallel and meridian intersect at a location.

Landforms:

Mountains- The most prominent landscape feature on earth; rise at least 2,000 feet above sea level and most will have a peak (or summit) with steep sides.

Hills- Will be between 500 and 2,000 feet in height, rounded at the top, and the slopes will not be as steep as mountains.

Plateaus- Are considered another **type of highland**; usually have broad, flat tops with canyons cutting through them.

Mesa- A formation similar to the plateau, just much smaller. They have flat tops, very steep sides, and are typically round in shape.

Buttes- These **resemble mesas** but are even smaller in diameter.

Valleys- These usually have streams and rivers running through them that come from the mountains and drain out into the sea.

Plains- Flat, rolling lands that have **little to no change in elevation.** They are often well-watered and fertile, making them good for growing crops. (*Plains that are closer to oceans are called coastal plains.*)

Delta- Landforms with a triangular shape where rivers will fan out into smaller streams right before it enters the ocean.

Estuary- The **wide mouth of a river**, where the ocean tides and the river current meet.

Peninsulas- Extensions form the main body of land that has water **encasing three** sides.

Island- These differ from peninsulas in the fact that they have water surrounding them from all sides.

Isthmus- A **narrow strip of land** that will connect two or more land masses to each other.

Bodies of Water:

Hydrosphere- All of the water on our earth including water vapor.

• Our oceans only contain 97% of the earth's water, the polar ice sheets make up another 2% and the remaining 1% comes from our rivers, lakes, and underground reservoirs.

Hydrologic Cycle- The process of moving moisture from the oceans, onto the land, and then back to the oceans again.

• The way the Hydrologic Cycle works: Moisture starts off by evaporating into the air from the oceans and then condenses and forms clouds. These clouds then drift over the land and release the water built up in them in the forms of rain, snow, and other forms of precipitation. The rivers then flow the water released on land, back into the oceans, and the cycle starts over again.

Rivers- A large stream that is formed by conjoining tributaries, and enters into a lake, ocean, or other large body of water.

Tributaries- A river or stream that is smaller in size and flows into a much larger river.

Waterfalls- When a river plunges off a cliff or a shelf of rock.

- *Niagara Falls* in the United States is one of the largest waterfalls; over 1.5 million gallons of water fall over its edge every second.
- Angel Falls in Venezuela is the highest waterfall and reaches nearly 3,212 feet.

Lake- A body of water that is surrounded by water on all sides.

• When lakes don't have outlets to flow into, they end up being very salty. The lakes that fit this description are the following: the Caspian Sea, the Aral Sea, the Dead Sea, and the Great Salt Lake. (Remember: some bodies of water that are labeled as a "sea" aren't actually a sea.)

Reservoirs- A large artificial lake that is created when rivers are dammed.

 Dams are created to control flood waters during the rainy seasons and the water in them is reserved for the irrigation of crops during the dry seasons. Others can produce electricity. Oasis- A peaceful and fertile area often found in deserts, where water and vegetation can be found.

Weather and Climate:

Weather- Involves the changes in the lower part of the earth's atmosphere in a localized area over short periods of time.

Climate- Involves **patterns of weather** that take place over a long period of time in a region.

- Weather can be described using things like "windy" or "partly cloudy" while climate would be described as "tropical rainforest".
- Factors that determine the climate of a region: The sun is a main factor because it influences wind patterns, ocean currents, and the temperature and air humidity. Other factors are latitude, elevation, bodies of water, and mountain ranges.

Latitude and Climate Zones:

Torrid (tropical) Zone- Warm all year and extends from the tropic of Capricorn to the tropic of Cancer and completely encompasses the Equator.

Temperate Zones- Cooler than the Torrid Zone, have a wide range of temperature and experience seasons.

The *northern Temperate Zone* extends from the tropic of Cancer all the way to the Arctic Circle.

• The *southern Temperate Zone* extends from the tropic of Capricorn all the way to the Antarctic Circle.

Frigid (or Polar) Zones- Contain the coldest climates on earth and always have subzero temperatures.

 The Frigid Zones are found in the far north and south and extend from the Arctic to the Antarctic.

Winds and Currents:

Wind patterns

- These begin when the transfer of hot air from the tropics reaches the poles and then the cold air from the poles reaches the tropics.
- Sun rays hit the earth unevenly, so some parts of the earth will receive heat more easily than others. Although, because of wind currents that carry heat to different places, the earth's heat is more evenly distributed.
- When warm air rises in the tropics, cold air sinks at the north and south poles, resulting in a continuous distribution of air circulating between the poles and the Equator.

Temperature and atmospheric pressure distort overall prevailing winds into certain patterns.

- When warm air rises, the result is a **low atmospheric pressure.**
- When cold air descends, the result is a high atmospheric pressure.
 - Winds will move *from* areas of high pressure into areas with low pressure.
 - In the Northern Hemisphere winds blow from the northeast, while in the Southern Hemisphere, the winds blow from the southeast. In the Temperate Zones, winds will blow *towards* the north and south poles.

Ocean Currents

- Ocean currents also **affect a region's climate.** For example, the Gulf Stream, a warm current of water, has a warming effect on the region of Western Europe.
- The Gulf Stream also has an effect on Westen Europe through the wind patterns. When a wind current blows over the Gulf Stream, **it warms up the air**, because winds will take on the temperature of water when they blow over them.

• Tropical currents of the Atlantic provide the perfect air to produce hurricanes.

Hurricanes- A **severe storm** that forms in a rotating pattern and always has very high winds.

- Areas that are farther inland will not experience the effects of both wind patterns
 and ocean currents like the areas that are closer to the seas. Because of this, they
 experience much greater extremes when it comes to climate.
 - For example, the central United States experiences harsher winters and warmer summers than the Pacific Northwest would.

Precipitation:

Precipitation- The **release of the water from the atmosphere** that will come in the form of rain, snow, or ice.

• Geographers classify precipitation according to the processes that they are formed which are frontal, orographic, and convectional.

Frontal Precipitation- When air masses of different temperatures meet and the warm air is forced upward and over the colder air. This is what happens when you hear the term "warm/cold front".

Orographic (mountain) Precipitation- When winds blow warm air towards the mountains. Results from warm air rising over mountains and then cools and forms clouds.

- The side of the mountain range that receives the orographic precipitation is called the windward side of the mountain.
- The side of the mountain that will not receive the orographic precipitation and will remain relatively dry is called the **leeward side.**

Convectional Precipitation- Occurs when hot air rises and then cools, making it lose its ability to hold moisture. This type of precipitation often occurs in the tropics and *produces the world's heaviest rainfalls*.

Elevation:

Elevation- The height of a point above sea level.

- Temperature decreases approximately 3.5°F for every 1,000 feet in an elevation increase.
- Just like how climate changes based on your position from the Equator or the poles, it also changes on your distance from the sea level.

Climate Classifications:

- Wladimir Koppen was a climatologist and meteorologist who developed the system of climate classification.
- Koppen **developed five major climates** and then their subdivisions based on precipitation and temperature.
- The **Koppen classifications are:** tropical, dry, mild, continental, and polar, with an addition to a sixth one—the highland.

Tropical Climates- Experience **high temperatures and heavy precipitation.** For example, the rainforest, and the savanna are tropical climates.

Savanna- Warm all year and dry in the winter. Tall grasses and some trees grow. Typically found between deserts and tropical forests.

Rainforest- Always hot and humid with thick trees and vines. Found near the Equator.

Dry Climates- Occur in lower and higher latitudes and are classified as **desert or steppe.**

Desert- Almost no rainfall. Hot all year around. Only middle-latitude deserts have cold winters. The only vegetation is cacti, shrubs, and sparse grasses.

Mild Climates- Found in the lower latitudes of the Temperate Zones, they don't generally have extreme temperatures but will sometimes experience cold winters. They are subdivided into humid subtropical, marine west coast, and mediterranean.

Humid Subtropical- Has mild winters and hot summers and provides good growing conditions for vegetation.

Marine West Coast- Mild winters, cool summers. Rainfall all year. Trees grow well and usually found on the western coasts of a continent.

Mediterranean- Mild winters with some rain and hot summers. Has scattered trees, woody shrubs, and grasses. Found on the western side of a continent.

Continental Climates- Located in the upper latitudes of the Temperate Zone in continents of the Northern Hemisphere.

Humid Continental- Cold winters with warm to hot summers. Rainfall will decrease towards the interior of the continent. The vegetation can be the trees or the prairies. Found in the middle latitudes on continents of the Northern Hemisphere.

Subpolar- Very cold winters with cool summers. Vegetation has cone-bearing trees (conifers) and they grow in vast forests that are often called *taigas*.

Polar Climates- Characterized by the **lack of their warm summers.**

Icecap- Frozen year round.

Tundra- Extremely cold and has a temperature that is above freezing for only a few months of the year but is never actually warm. Some small plants may grow, like grass, but there are no trees.

Highland Climates- Highlands are typically found in mountain ranges with a high elevation and the temperature will get colder as the elevation increases. At the higher elevations, trees are not able to grow and only tundra plants (such as grass and some shrubs) are able to survive. The highest elevations are covered in ice.

Natural Resources:

• Natural resources are used for a variety of things: for the support of humans life fresh water and good soil is used; for fuel, coal and oil is used; for industry, iron, bauxite (aluminum), and other metals are used.

Renewable Resources:

- Water is renewable because of the process of the hydrologic cycle (which we already talked about).
- Soil is renewable because of the weathering of rocks and the decomposition of vegetation.
- Air is also renewable because our plants are designed to turn the carbon dioxide that we let out into oxygen for us to take back in.
- Trees are also renewable because their seeds provide for the opportunity of renewed growth. Even when forests are cut down, planting new trees will form a whole new forest within a couple of years.

- Waterfalls and streams are renewable because they are a source of energy.
 Waterpower is used to turn turbines and generate electricity.
- Some countries with volcanic activity use what is called **geothermal energy**, which is energy that is deprived from the earth's interior. (The word **geothermal** literally means "earth-heat")
- The wind is also a renewable source. Like water and heat, it is used to produce energy. People in Holland use windmills in order to pump seawater out of the lowlands.
- Solar energy is also renewable. Some people use solar energy in order to heat their houses during the winter. It is also used for heating swimming pools and lighting.

Nonrenewable Resources:

- Some resources are limited. While we may never use up all the wind and solar energy, we can use up all of the coil and iron in the world because it is not renewable. The scarcity of some of these materials actually makes them very valuable.
- **Iron** is a nonrenewable source that has a significant role when it comes to industry. The value of iron ore is best illustrated by the chief product it produces—steel.
- Bauxite, which produces aluminum, is another non renewable material, but it actually appears to be in an abundant supply all around the world. Aluminum is very valuable to the aerospace industry because it is such a lightweight metal. It is also the best metal for recycling since it is less expensive to simply melt used aluminum and reshape it, than to mine for more bauxite and extract the aluminum from its core.
- Another non renewable resource is fossil fuels—coal and petroleum (the source of oils
 and natural gases). Most of these resources are located in the Middle East, but the United
 States, Russia, and China all have large quantities of coal. These are also great sources of
 power, however they are very harmful to the environment.
- Another non renewable resource is **uranium.** It produces a tremendous amount of energy through what is called **nuclear energy.** It has also been used to partially solve the problem of producing energy but harming the environment.

Wildlife:

One of the more fascinating aspects of geography is learning the different kinds of plants and animals that live in our world.

- The unique wildlife in a specific area of the world also aids in defining a region.
- A distinct difference in wildlife that can be seen between two very similar areas can be spotted when you compare the rainforests surrounding the Amazon and Congo river basins.
 - The waters of the South Pacific and the Caribbean are also another example of two places that are similar in environment but extremely different when it comes to wildlife.

Culture:

Culture- the customs and way of life of a particular nation or group of people.

• Culture is the **most distinctive characteristic of any group of people** and will include family structure, clothing, food and drink, art, occupation, etc.

Religion:

- Religion is the **single most important factor** when it comes to any group of people.
- The word *culture* is actually deprived from the Latin word for "worship".
- Religion determines how people live; their views on truth, morality, and justice all revolve around their religion.

 For example, the United States based their constitution on the Bible, and therefore gave them a strong desire to preserve life, human freedoms, and honor law and order.

Language:

- After religion, language is the second most important factor in the culture of a group of people.
- A shared language fosters unity and identity in a society while a society with multiple languages could potentially cause division.

Forms of Government:

 Governments also affect geography because it deals with the borders and boundaries of a nation that can be both political and geographic. For example, governments can control where a certain group of people reside, and what territories their country gains or loses.

Basic forms of Government

Theocracy- Rule by God; in theocracy God Himself will rule the nation either personally or through chosen representatives. For example, Islamic Republic of Iran is a theocracy because their laws are based on their religion.

Autocracy- Rule by one.

Monarchy- A form of Autocracy; a system of government that is run by one ruler, typically a queen or king; usually inherit their position. May either have absolute control or will be limited by a constitution or representative assembly. For example,

Russia underneath the rule of the czars is a monarchy with absolute power, while the United Kingdom is a monarchy while power is limited by a constitution.

Dictatorship- Another form of Autocracy; a system of government that is run by a ruler that is typically a military leader and did not inherit the power, but instead took it by force. Some of these rulers are **totalitarian meaning they control every aspect of the citizens life.** For example, Nazi Germany ruled by Hitler was a dictatorship.

Democracy- Rule by the people

Direct Democracy- A form of democracy; system of government in which the people rule and make decisions based on a popular vote. Ancient Athens was a form of direct democracy.

Democratic Republic- Another form of democracy; a system of government in which the **people rule through those elected to represent them.** The French Republic and the Swiss Federation are both examples of a democratic republic.

Constitutional Republic- The last form of democracy; a republican government in which the citizens and their representative assembly are guided by a prewritten law or constitution. The United States is an example of a constitutional republic.

- Governments determine laws that the people should obey, the taxes they have to pay, and the rights that every citizen can enjoy.
 - Some nations government will impose a state religion on the people, like in
 Saudi Arabia, where Islam is the only legal religion.
 - While some governments, like the ones run in China and Vietnam, will
 discourage religion altogether and persecute Christians in particular.
 - In other nations, like the United States, the government allows for a degree of religious freedom.

Governments also influence geography to a certain extent, because the nations of the
world will deal with each other politically and that then changes the world's political
geography.

Political Geography- Geography that deals with the boundaries and divisions of certain countries.

- There have actually been geographic changes that have been the result of treaties or agreements between nations.
 - One example is the border that was peacefully established between the United
 States and Canada using the Webster-Ashburton Treaty of 1842 and the Oregon
 Treaty of 1846.
 - Another example is when the colonial powers of Europe had superimposed on the political boundaries of Africa, which had not previously existed.
- Some changes come from the result of war between nations.
 - As a result of the *Napoleonic Wars and World War I*, Europe was one of the
 continents that was an example of geographic change due to war. Many countries
 lost and won territories which drastically changed the geographic layout of the
 continent. Several new countries were also created.
 - Another change in political geography was when several countries gained their independence and in Europe during the 20th century.
- Some countries change their geography within their own lands.
 - For example, the United States gained their western territories when they established their independence and then converted them into states.
 - The British government has also rearranged the political divisions of Canada twice now, in order to better accommodate the French and English-speaking residents.

Economic Systems:

- The type of economic system that exists in a nation will, in part, affect how a country's
 politics and culture will develop. Which then, influences the political geography of a
 nation.
- The main economic systems in the world are free enterprise capitalism and socialism.

Free Enterprise Capitalism- Gives freedom to individuals so that they can pursue their economic trade as they see fit through the ownership of their private property and decision-making in the marketplace.

Socialism- Economic system in which the government owns and controls a nation's resources and industries; forms the basis for totalitarian systems like *Communism*.

History of Geography and Map Making:

- The term Geography means "to write of the world" and was originally used in Ancient Greece to reference the study of natural and social sciences.
- Greek philosophers taught that the world was round. Greek geographer and mapmaker,
 Ptolmey, developed the lines of latitude and longitude during the 2nd century.
 - Originally, maps drawn in the Arabian countries were drawn with south at the top
 of the map and north at the bottom of the map.
 - Portugese Prince Henry the Navigator was involved in developing schools of mapmaking and navigation.

- Ptolmey's study of maps actually encouraged *Christopher Columbus* to reach the east by sailing west.
- Today, maps are much more accurate and are all developed by professionals such as cartographers, surveyors, aerial photographers (photography taken from the view of the sky), and oceanographers.

Cartographers- A **professional** that studies and draws **maps**.

Aerial Photographers (airborne imagery)- Professionals who take pictures and images from a helicopter or some other form of aircraft.

Surveyors- A professional that surveys a plot of land.

Oceanographer- Form of science that deals with the study of the phenomena of the sea.

Data Collecting:

- In order to make a map, professionals obviously have to have the **tools to gather the information that they need.** The first thing that they use is **direct observation.**
- Early geographers made maps only using direct observation. They would walk alongside a river or stream and then write down their observations and distinct landmarks of the landscapes as they go along.
- However, due to modern technology, geographers today have a more indirect way of gathering their information.
 - One example of indirect observation that geographers use today is aerial photographs. They will take the pictures that they have gathered from an airplane or satellite, and will then be able to measure the height of a mountain or the depth of an ocean using the Global Positioning System.

Census- An official count of a location's population that is used for recording population density and often includes a variety of details of each individual person.

Globes and Maps:

• In order to determine the best display and layout of a map/globe, geographers will use diagrams, charts, tables, and graphs to help display information.

Cartography- The process of making maps.

• A globe is a more accurate representation of the world than a map is. This is because it is basically a scaled-down version of our world (or at least the places that we have discovered in our world).

Globe- an accurate representation of the earth that is scaled-down and shows actual shapes, elevations, and locations of landmasses and bodies of water.

- A globe does have its disadvantages though. Although accurate, you can only look at one half the earth at a time, and they aren't nearly as detailed as a map would be. For example, you would have to look at a map in order to find a certain road or highway, since globes only show large landmasses.
 - Globes are also very bulky and inconvenient. So while they may be entertaining
 for a while, and help you look at the big picture of things, they don't have much
 use when it comes to the small details.

Map Projections

Map- A flat representation of the world that is more detailed than a globe and will often only show a smaller portion of land than a globe would. *For example*, a map may depict a county instead of a country.

- While maps are more detailed and can be used for specific places, they all have the same common problem: they are flat projections and don't accurately display the curved shape of the earth.
 - Some maps will actually distort the size, shape, distance, and direction of a certain location.
- In order to fix this problem, one must find the best projection that has the least amount of distortion in order to accurately illustrate your data.

Mercator Projection- developed by *Flemish cartographer and geographer*, *Gerardus Mercator*, during the 1500s. Designed his map by wrapping a globe in translucent paper and formed a cylinder that touched the entirety of the Equator. This projection is the most accurate at the Equator and the most distorted at the north and south pole.

(Mercator Projection example is shown below)

MERCATOR PROJECTION

- Made as if you wrapped a cylinder around a globe
- Parallels and Meridians appear as straight lines
- · Accurate at equator
- · Distorted at poles

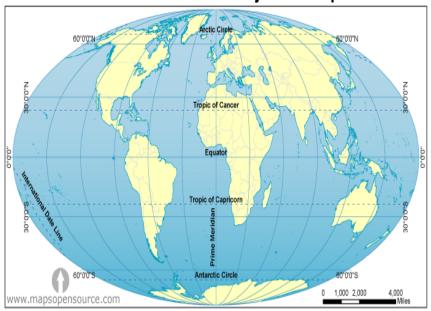


mercator-projection-n.jpg (720×540) (slideserve.com)

Mollweide Projection- This projection will show the correct size of a landmass in relation to the other landmasses around it, but it will distort the shape of that landmass. The closer the landmass in the perimeter of the map, the more distorted it gets, while the closer it is to the center, the less distorted it gets.

(Mollweide Projection example is shown below)

World Mollweide Projection Map

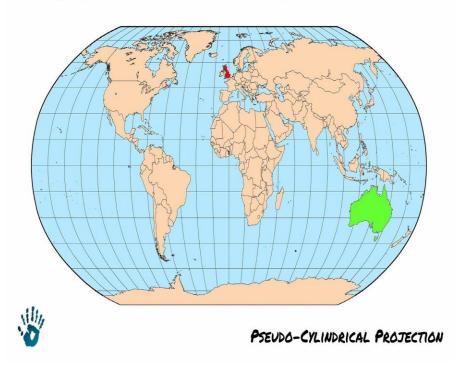


world-mollweide-projection-map.gif (700×375) (mapsopensource.com)

Robinson Projection- This projection combines some of the best features of both the Mollweide projection and the Mercator projection. On this projection the lines of latitude and longitude nearly intersect at right angles. Therefore, this map shows more accuracy when it comes to the distance between two areas.

(Robinson Projection example is shown below)

ROBINSON MAP PROJECTION



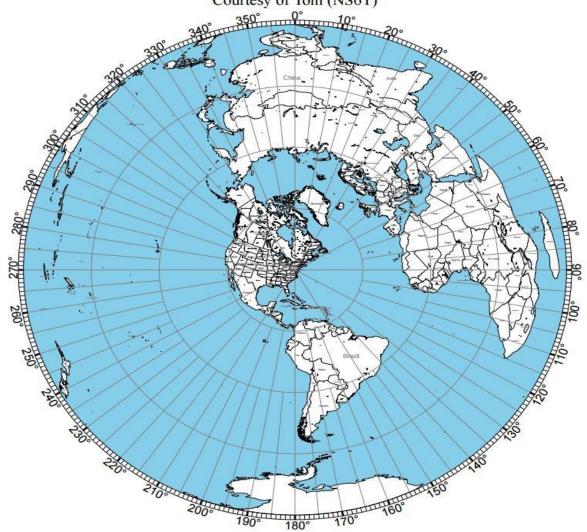
ROBINSON+MAP.jpg (1600×1131) (bp.blogspot.com)

Azimuthal Projection- Is very true when it comes to compass directions. This projection is often used by geographers whenever they want to show the North and South Poles. On this projection, the longitude lines are straight and the latitude lines are circles. This projection distorts shape and size the closer you get to the opposite pole.

(Azimuthal Projection example shown below)

Azimuthal Map

Center: 39°30'0"N 77°0'0"W Radius: 15000 km Courtesy of Tom (NS6T)



AzmithualMap.JPG (812×872) (nemarc.org)

Equidistant Map- This is the type of map that you would use if you wanted to know a correct distance between two places. These maps are typically road maps or

state maps because they cover such a small section of the earth. Due to the area shown on the map being very small, the lines of latitude and longitude are shown correctly and with very little distortion.

(Equidistant Map example shown below)



road-weather.jpg (1567×937) (netdna-ssl.com)

Symbols

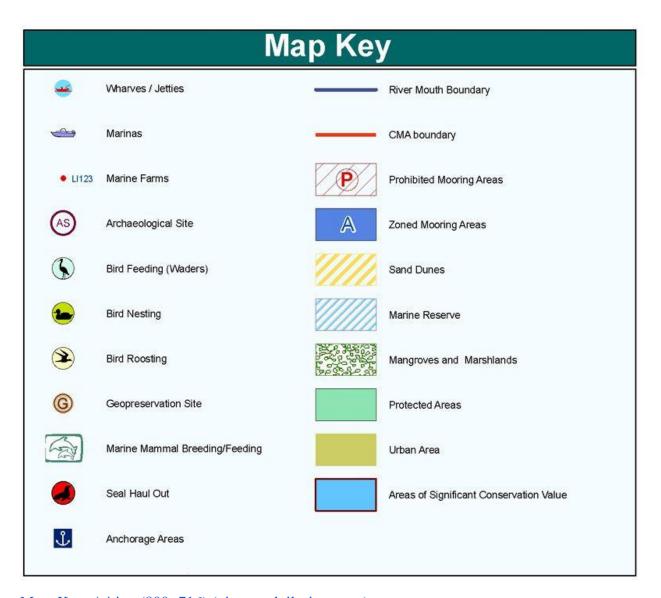
 Map symbols are characterized into four categories: a title, a scale, a directional indicator, and a legend/key.

Title- Tells you what the map is portraying.

Scale- Determines the **distance from one place to another.** (Ex. 1 cm on the map could be 50 miles)

Directional Indicator- Oftentimes this is just an **arrow on the map, pointing north.** Sometimes, there is a compass rose that shows the cardinal directions of north, south, east, and west, plus the intermediate directions such as northeast.

Legend/key- Explains what the colors, symbols, and lines on the map mean.



Map_Key_A4.jpg (800×716) (giantsandpilgrims.com)