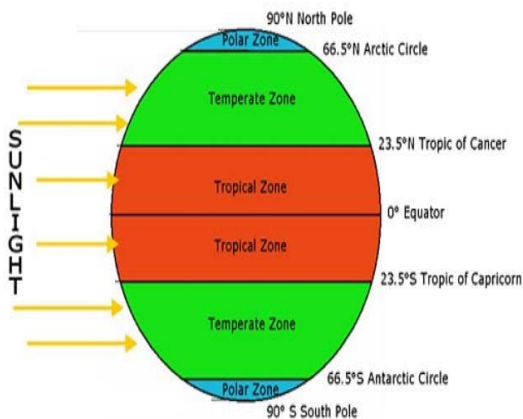


# Circles of Latitude



A *circle of latitude* is one of the parallel lines that mark the divisions of the five major geographic (or climate) zones. The latitudes on Earth receive different amounts of sunlight, and are a key factor in determining a region's climate. For example, the higher the latitude of a given place (the farther away it is from the Equator), the lower amount of the Sun's rays will reach it. Therefore, higher latitudes receive less heat than lower latitude areas nearer the Equator. However, the Earth's axis is tilted  $23.5^\circ$ , meaning that the amount of sunlight that a particular latitude receives changes with the seasons. From April to September, the Northern Hemisphere is tilted toward the Sun, where it receives more energy; the Southern Hemisphere receives this additional Sun energy between October and March, when it is tilted toward the Sun.

There are FIVE Circles of Latitude:

**Arctic Circle:** this includes all areas from  $66.5^\circ\text{N}$  to the North Pole. Places within the Arctic Circle tend to be snow- or ice-covered year-round. The deep ice and snow that covers these regions has been built up over hundreds of thousands of years. This one of the areas of the Earth that is furthest from the sun, and therefore will be the coldest. The sun's rays take the longest to reach this area, so they've lost the most heat (or energy). The Arctic Circle is one of the Polar Zones, which stays very cold all year round and at certain times of the year has either 24 hours of daylight (in summer) or 24 hours of darkness (in winter).

**Tropic of Cancer:** this includes areas between  $66.5^\circ\text{N}$  and  $23^\circ\text{N}$ , the northern boundary of the Tropics. Places within this circle of latitude experience warm climates, and this is the furthest point north where the Sun is directly overhead at noon. As the earth curves away from the sun (at the Tropic of Cancer in the northern hemisphere, and the Tropic of Capricorn in the southern hemisphere), the sun's rays take longer to get to the earth's surface. By the time they get there, they don't contain as much heat. So this area of the earth will be cooler than the area closest to the equator. The areas of the earth between the Tropic of Cancer and the Arctic Circle in the northern hemisphere are called the Temperate Zones. In the Temperate Zones there is a wider temperature range, and most areas experience the four seasons of winter, spring, summer, and fall.

**Equator:** this includes the areas that surrounds the  $0^\circ$  latitude, which divides the Earth between Northern and Southern Hemispheres, is the starting number for all latitudes North and South. It stretches between  $23^\circ\text{N}$  (the Tropic of Cancer) and  $23^\circ\text{S}$  (the Tropic of Capricorn). The tropical belt of land and sea extending around the globe on both sides of the equator receives the most sunlight, which results in hotter temperatures and frequent rainfall.

**Tropic of Capricorn:** this includes areas from  $23^\circ\text{S}$ , the southern boundary of the Tropics, to the Antarctic Circle at  $66^\circ\text{S}$ . This is the furthest point south where the sun is directly overhead at noon. The areas between the Tropic of Capricorn and the Antarctic Circle in the southern hemisphere are also Temperate Zones where there is a wider temperature range. Most areas will experience the four seasons of winter, spring, summer, and fall; however, they will experience it at the opposite time. For example, when it is spring in the Northern Hemisphere, the Southern Hemisphere will be experiencing fall.

**Antarctic Circle:** this includes areas from  $66^\circ\text{S}$  to the South Pole and spans the entire continent of Antarctica. Regions in this area also experience freezing temperatures and are covered with snow or ice all year round. The Antarctic Circle is also one of the Polar Zones, which stays very cold all year round and at certain times of the year has either 24 hours of daylight (in summer) or 24 hours of darkness (in winter).