



**JIWAJI UNIVERSITY**  
**SCHOOL OF STUDIES: TRAVEL AND TOURISM MANAGEMENT**

**BTM 2nd SEMESTER**  
**SUBJECT- GEOGRAPHY FOR TOURISM (205)**

**TOPICS- Latitude , Longitude, International Date Line and Time Zones**

**PREPARED BY- TANU JAISWAL**

# BASIC UNDERSTANDING

## Latitude

– distance between two parallels measured north or south of the Equator.

## Parallels

– are imaginary lines running in an east-west direction around the Earth

## Longitude

– distance between two meridians measured east or west of the Prime Meridian.

## Meridians

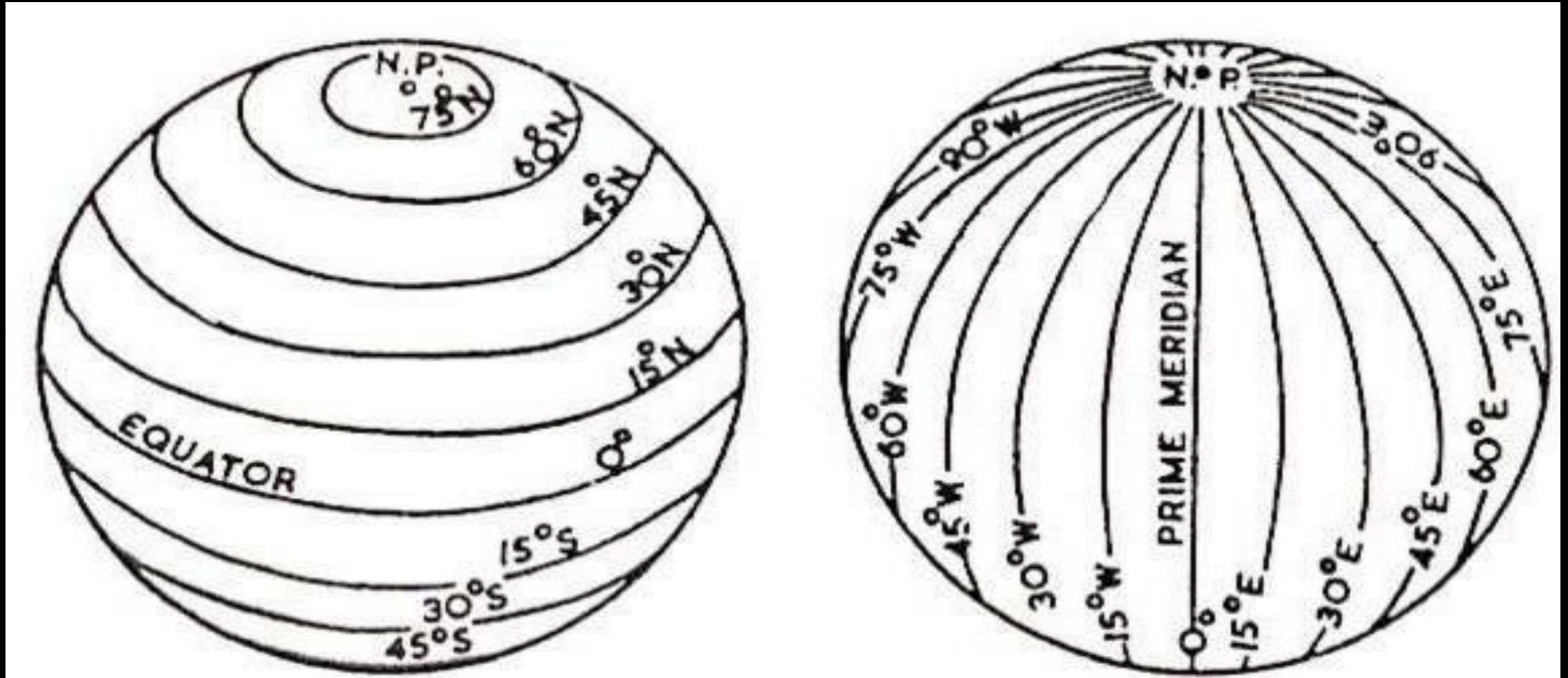
– are imaginary lines that meet at the poles.

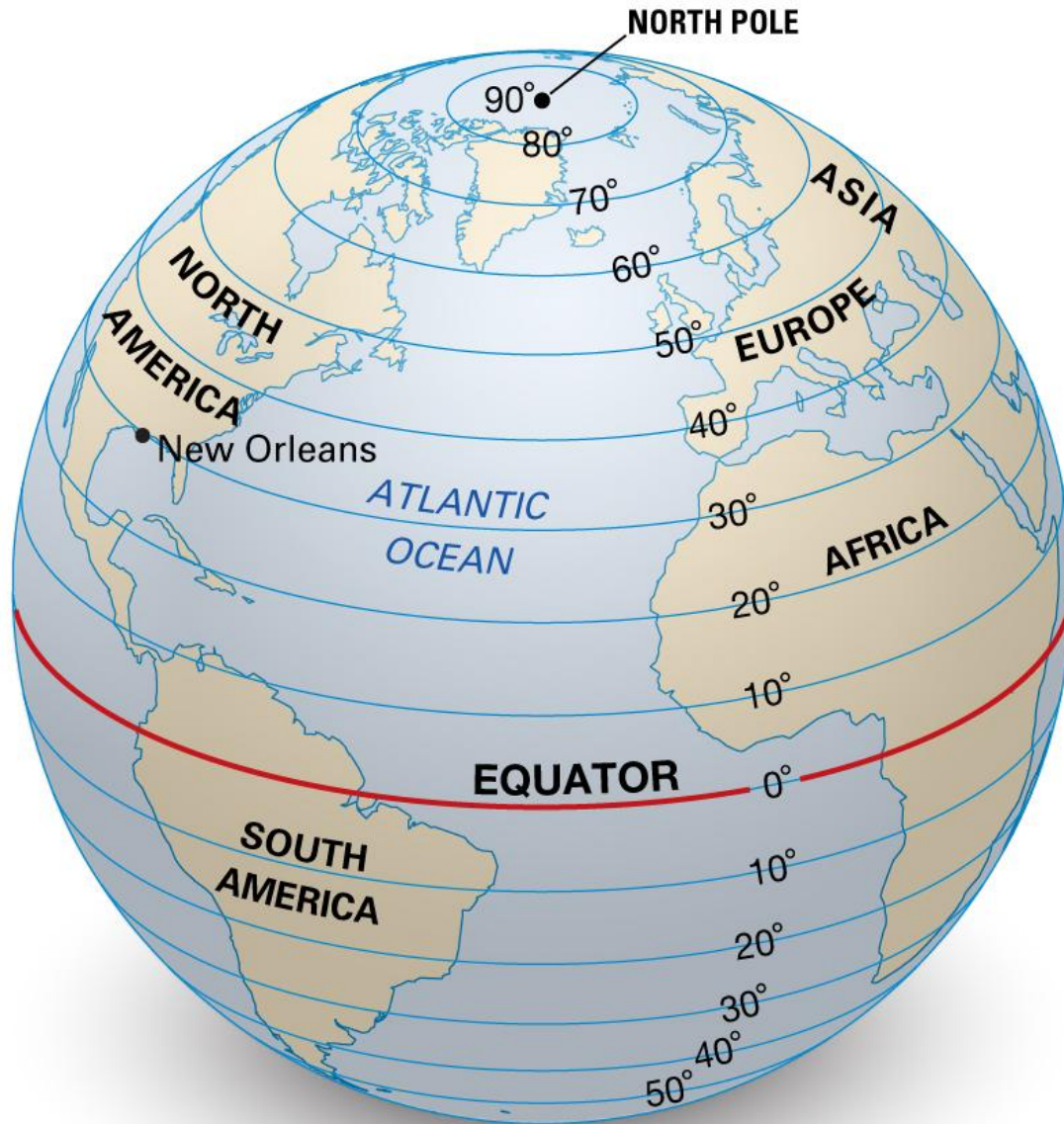
# HORIZONTAL LINES

Latitude | Parallels

# VERTICAL LINES

Longitude | Meridians





## FACTS ABOUT LINES OF LATITUDE

- Are known as parallels.
- Run in an east-west direction.
- Measure distance north or south from the Equator.
- Are parallel to one another and never meet.
- Cross the prime meridian at right angles.
- Lie in planes that cross the Earth's axis at right angles.
- Get shorter toward the poles, with only the Equator, the longest, a great circle.

# Latitude:

- Latitude is the angular distance of a point measured in degrees from the center of the earth on the surface of the earth.
- As the earth at the poles is slightly flattened, the linear distance at the pole of a degree of latitude is slightly longer than at the equator.
- For example, it is 68,704 miles at the equator ( $0^\circ$ ), 69,054 miles at  $45^\circ$  and 69,407 miles at the poles. The average of 69 miles (**111 km**) is taken.
- **Note: 1 mile = 1.607 km**

**Arctic Circle** – located at  $66\frac{1}{2}^{\circ}$  north of the equator. It marks the northern most limit of the Sun's oblique or slanting rays.

**Tropic of Cancer** – lies  $23\frac{1}{2}^{\circ}$  north of the equator. Marks the northern most limit of the Sun's vertical rays.

**Equator** – designated 0 degree latitude, located at the center of the Earth and divides the Earth into the Northern and Southern Hemispheres.

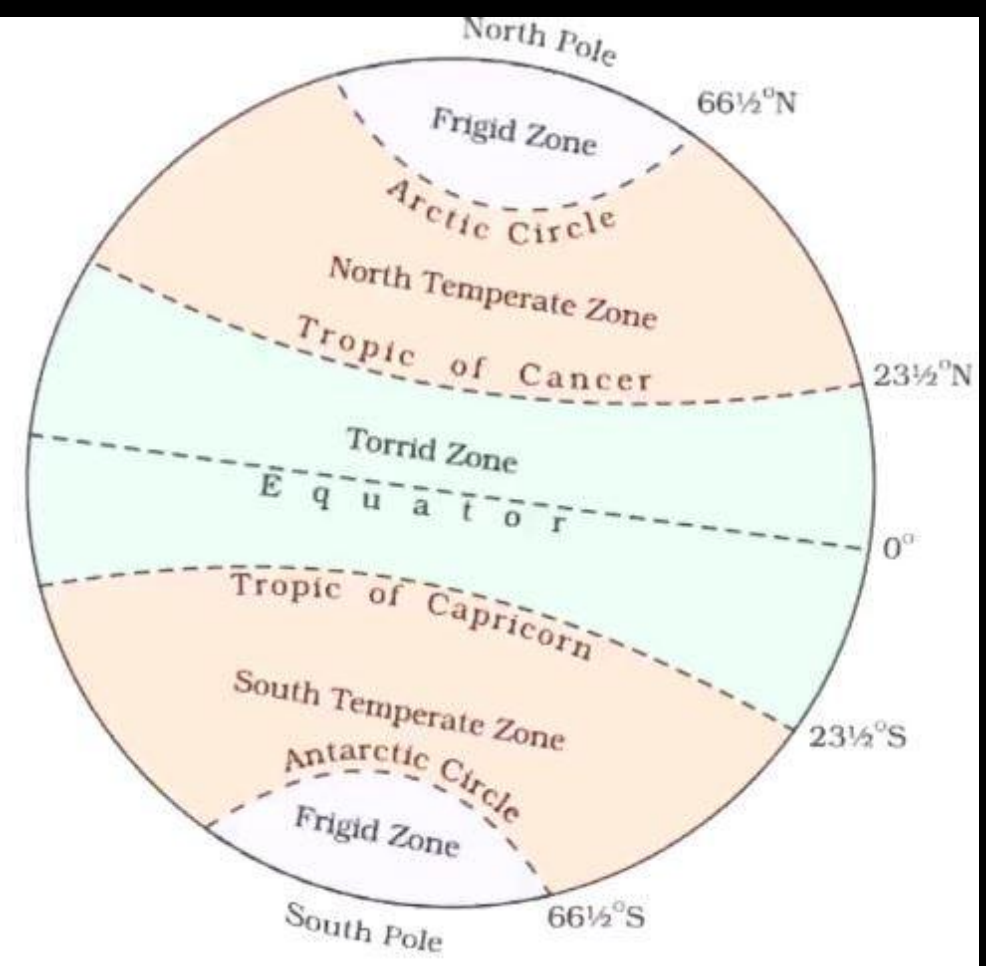
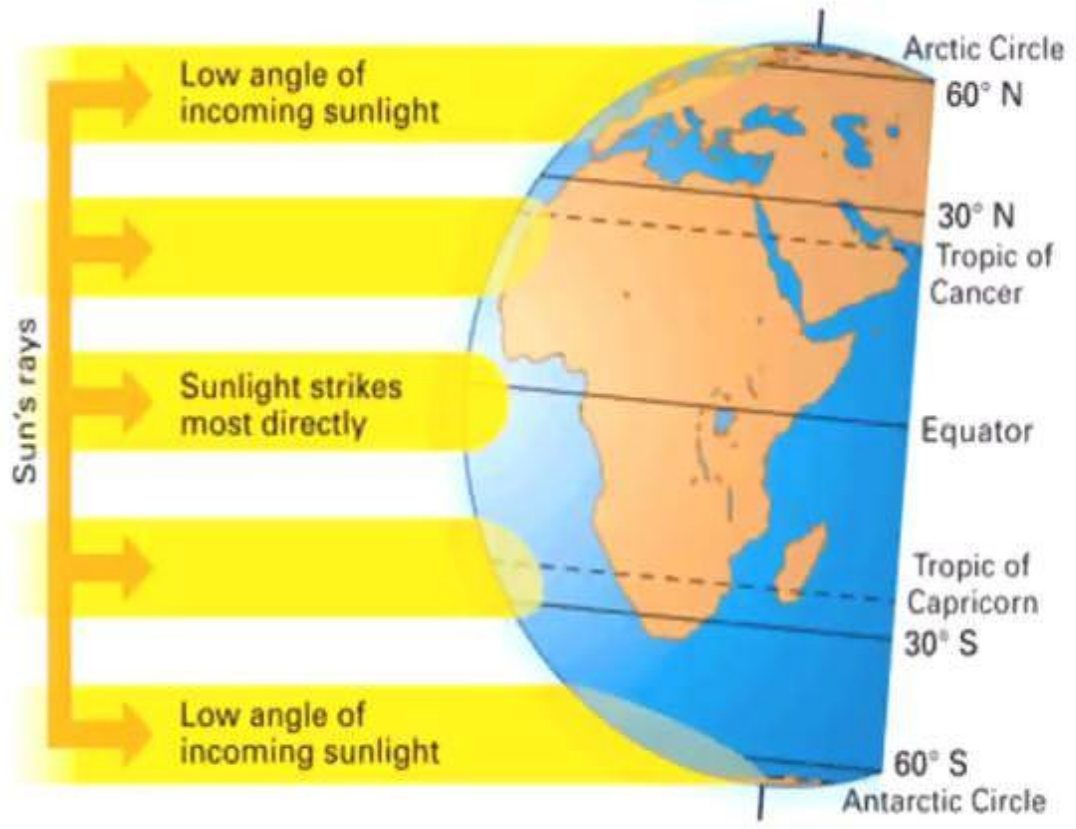
□ The reference point in measuring distances north and south moving toward the poles.

**Tropic of Capricorn** - lies  $23\frac{1}{2}^{\circ}$  south of the equator. Marks the southern most limit of the Sun's vertical rays.

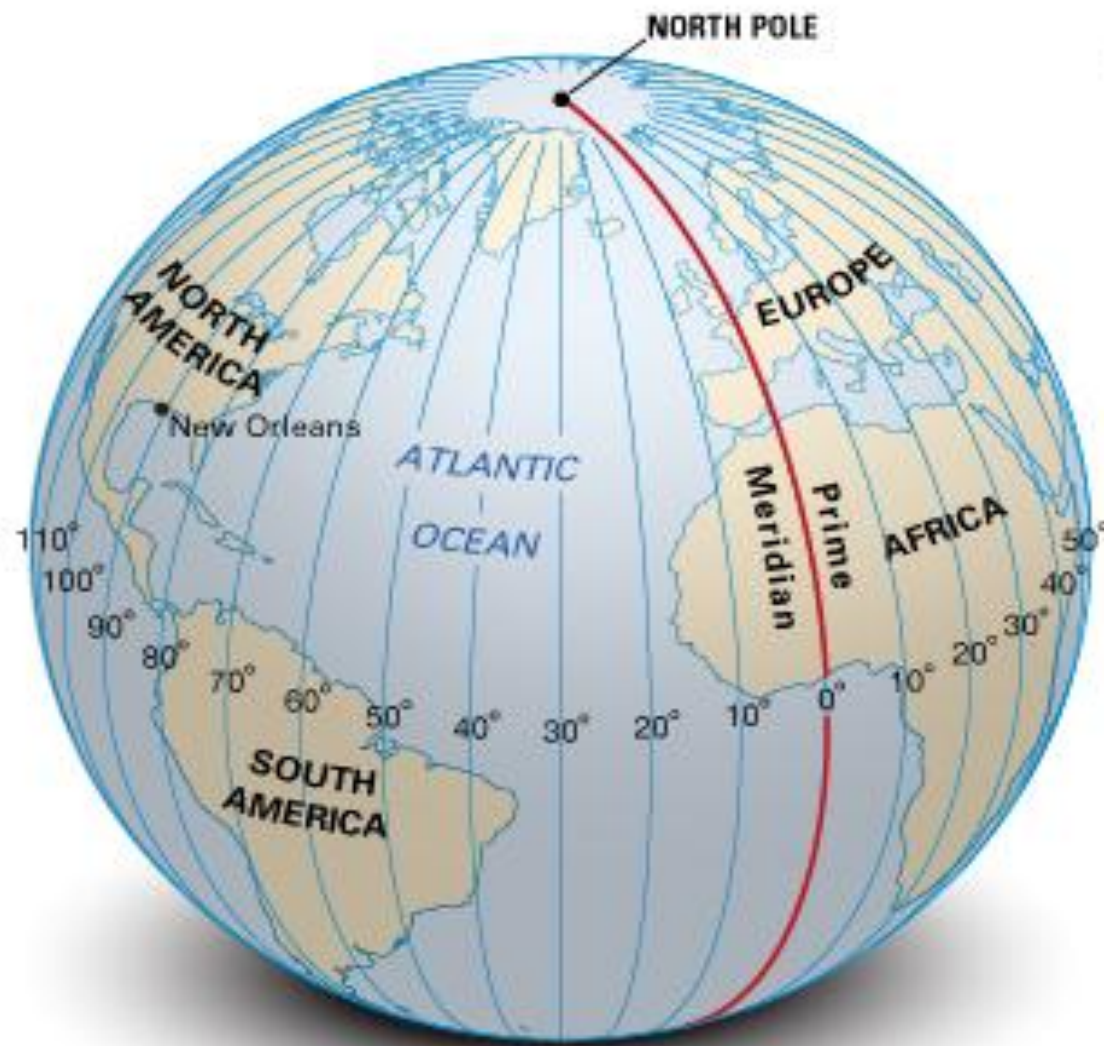
**Antarctic Circle** - located at  $66\frac{1}{2}^{\circ}$  south of the equator. It marks the southern most limit of the Sun's oblique or slanting rays.

# TEMPERATURE ZONES

- On all latitudes between the Tropic of Cancer and the Tropic of Capricorn, the midday sun is exactly overhead at least once a year. Consequently, this area receives the maximum heat and is called the **torrid zone**.
- On no latitude beyond the Tropic of Cancer and the Capricorn Tropic, the midday sun never shines overhead.
- The angle of the rays of the sun continues to decline towards the poles. As such, the areas bounded by the Tropic of Cancer and the Arctic circle in the northern hemisphere, and the Tropic of Capricorn and the Antarctic circle in the southern hemisphere, have moderate temperatures. These are called **temperate zones**.
- Areas in the northern hemisphere between the Arctic circle and the north pole and the Antarctic circle and the south pole in the southern hemisphere are very cold. It's because the sun isn't raising much above the horizon here. These are called **frigid zones**.







## FACTS ABOUT LINES OF LONGITUDE

- Are known as meridians.
- Run in a north-south direction.
- Measure distance east or west of the prime meridian.
- Are farthest apart at the Equator and meet at the poles.
- Cross the Equator at right angles.
- Lie in planes that pass through the Earth's axis.
- Are equal in length.
- Are halves of great circles.

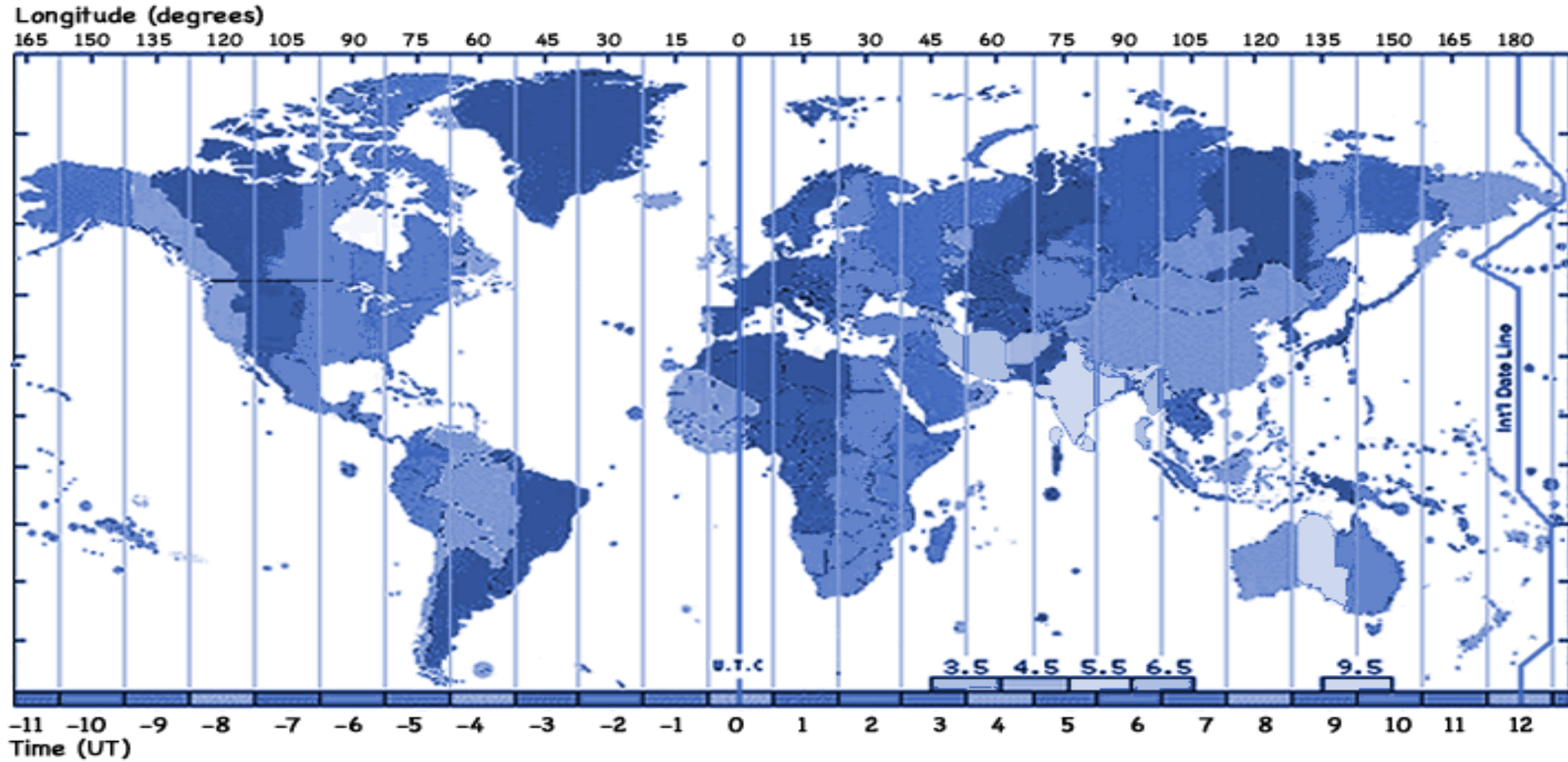
# LONGITUDE

- Longitude is an angular distance, measured in degrees along the Prime (or First) Meridian east or west equator.
- Longitude on the globe is shown as a series of semi-circles running through the equator from pole to pole.
- This is the Prime Meridian ( $0^\circ$ ) from which all other meridians move up from  **$180^\circ$  east to west**.
- They have one very important function, determining local time in relation to G.M.T. or
- **Greenwich Mean Time**, sometimes called **World Time**.

## The relation between Longitude & Time:

- Because the earth makes a complete  $360^\circ$  revolution in one day or 24 hours, it goes through  $15^\circ$  in one hour or  $1^\circ$  in four minutes.
- Earth rotates from west to east, so every 15 degrees we go east, local time is 1 hour higher. If we go west, the local time will be delayed by 1 hour.
- Thus, we may conclude that places east of Greenwich see the sun earlier and gain time, whereas places west of Greenwich see the sun later and lose time.

# Time and Longitude

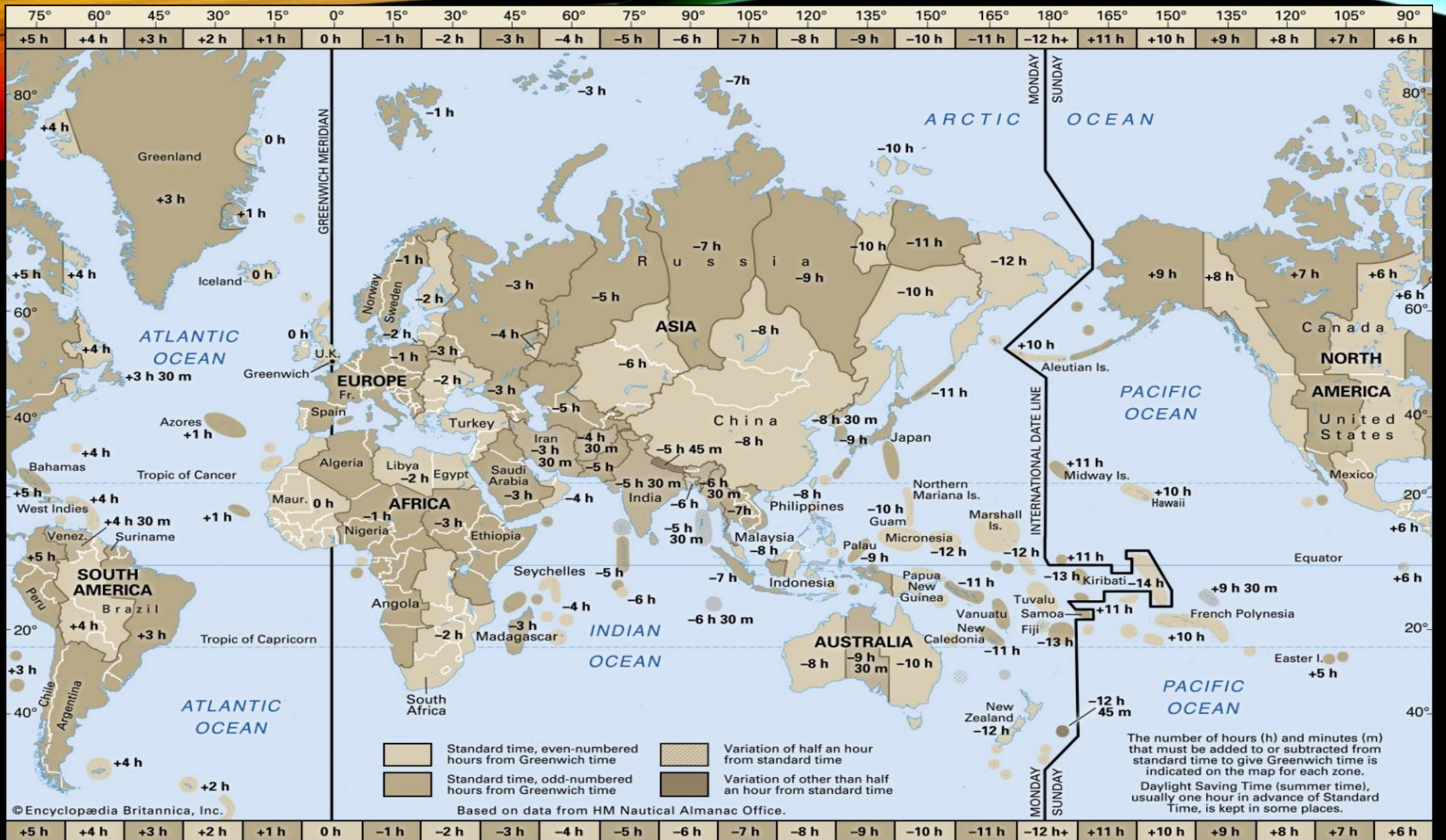


# Time Zones & Standard Time:

- In order to keep their appointments, travelers going from one end of the country to the other would have to keep changing their watches. This is very inconvenient and impractical.
- In larger countries such as **Canada, U.S.A., China, and U.S.S.R**, it would be inconvenient to have a single time zone. So these countries have multiple time zones.
- There are five time zones each in both Canada and the USA, the Atlantic, Eastern, Central, Mountain, and Pacific Time Zones.
- The difference between the Atlantic and Pacific coastal local time is almost five hours.
- There are a total of **11 time zones** in Russia.

# International Date Line:

- The **International Date Line** (IDL) is an **imaginary demarcation line** on the Earth's surface running from the North Pole to the South Pole and demarcating the change from one calendar day to the next.
- A person who goes from **east to west** around the world would **gain or set his clock back one hour for every 15 degrees of longitude** crossed, and would gain **24 hours** for one circuit of the globe from east to west if they did not compensate by setting their **clock forward one day** when they crossed the IDL.
- On the other hand, **west-to-east** circumnavigation of the globe **loses an hour for every 15 degrees of traversed longitude** but gains back a **day** when it crosses the IDL.
- The International Date Line passes through the middle of the Pacific Ocean, approximately following the  $180^\circ$  longitude line but deviating to some territories and groups of islands.



+5 h +4 h +3 h +2 h +1 h 0 h -1 h -2 h -3 h -4 h -5 h -6 h -7 h -8 h -9 h -10 h -11 h -12 h+ +11 h +10 h +9 h +8 h +7 h +6 h



THANK  
YOU