

# Rotation and Its Impact

Earth's rotation is the rotation of planet Earth around its own axis. Earth rotates eastward, in prograde motion. As viewed from the north pole star Polaris, Earth turns counterclockwise.

This article will give details about the impact of Earth's rotation, along with other phenomena associated with it. Information from this article will be useful for candidates in the geography segment of the IAS Exam.

## Overview of Earth's Rotation

Rotation can be defined as the spin of Earth on its own axis from west to east direction. This is the reason that the missile launches are done from the eastern coast of the countries so that in case the launch fails, it does not fall into their own country. For example, in India, we have the Sriharikota launch centre on the eastern coast of the country.

It must also be noted that the speed of rotation of the earth is not constant throughout latitudes. It differs at different latitudes. For instance, at the equator, the rotational velocity is high whereas it keeps on reducing while going towards the poles.

## Impact of Earth's Rotation

Although not seen by the naked eye, rotation of the earth has a direct impact over the day to day phenomenon such as:

### Day and Night

Rotation of the earth causes the phenomenon of days and nights. The area of the earth facing the sun experiences daylight and the other experiencing the night.

This also had an impact on the time of the day in a particular region as well.

### Coriolis Force

Coriolis force is the force that is responsible for deflection of the winds in the northern and the southern hemispheres. It is also known as the impact of Ferrel's law. According to Ferrel's law, any moving fluid turns right in the northern hemisphere while in the southern hemisphere it turns left.

This Coriolis force that causes the deflection in both these hemispheres is generated due to the movement of the earth on its axis, i.e rotation.

Coriolis force is thus a very important phenomenon to study in order to understand the various atmospheric phenomenon such as the monsoon cycle, the cyclones etc.

## **Tides**

Tide is a natural phenomenon that is produced by the gravitational pull of both the sun and moon over the earth along with the rotation of the earth. This causes the alternate rise and fall of the ocean water which is known as a tide.

## **The magnetism of the Earth**

Rotation of the earth is also one of the factors that hold magnetism of our planet. Thus by acting as a large magnet, it creates conditions necessary for the survival of the living beings over the earth.