

**CHAPTER 08**

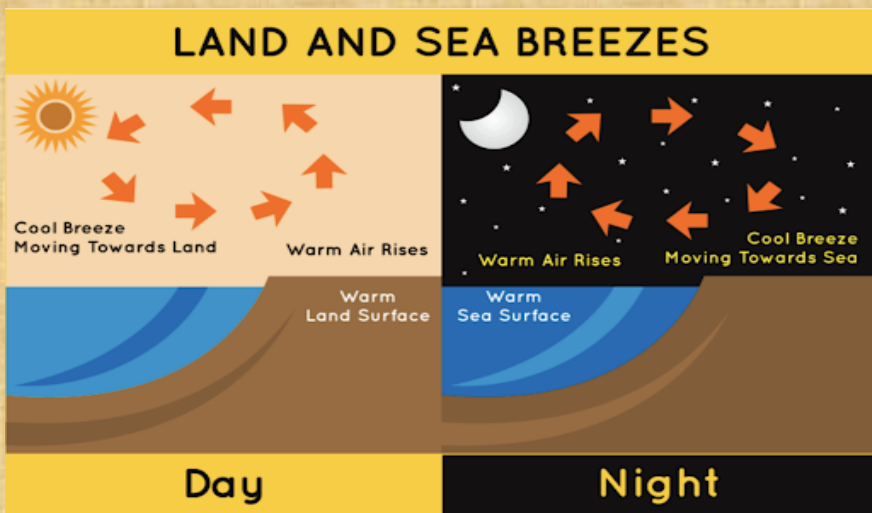
# AIR, WINDS AND CYCLONES

## Land breeze and Sea breeze:

Sun heats the land and water. The land heats up and cools down quickly than the water. Sea heats up and cools down slowly compared to land. This differential heating and cooling of land and sea give rise to a gentle to a moderate wind, termed as breeze.

It is of two types depending on the direction of flow. They are Land breeze and Sea breeze.

Now we know that land heats up quickly than the sea and after the sunset, land releases heat quickly than the sea. It creates a high pressure over the land and low pressure over the sea. So the air rushes from high-pressure area (land) to low pressure area (sea) creating a breeze known as Land breeze. The land breeze blows at night because the land loses heat quickly whereas the water takes more time to cool down.



When the sun is up, the land gets heat up quickly and the temperature of the air above land increases. Then the warm air rises and low pressure is maintained on land. On the other hand, over the sea high-pressure zone creates. Then the air rushes from high-pressure area (sea) to low pressure area (land) creating a sea breeze. The sea breeze blows during the day because the sea is much cooler than the land during the day.

In this way, Sun is the driving force for wind and breeze by creating differences in temperature and air pressures.



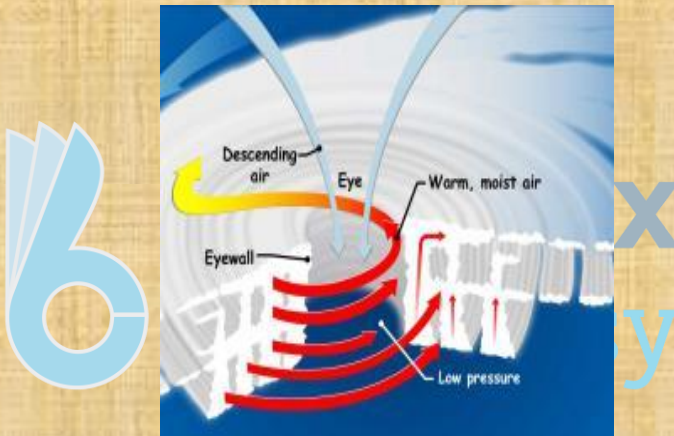
## Cyclones:

Do you know the destruction cyclone can bring? Certain changes in the air pressure can make a calm and clear sky into a one full of threatening clouds. Fierce wind, heavy rain and lightning are the things we experience during severe weather. High and lower pressure air interacts to bring about cyclones.



### How do cyclones get started?

Air pressure differences over the ocean can cause fast, spinning winds. The winds swirl around in a circle and form only over warm, tropical water. They can last for days or weeks.



Its wind and spin that forms a cyclone. The warm air rises, cools and condenses to form clouds. When the warm air over the ocean rises superfast, the cool air moves in to replace it, then an extremely lower pressure area results. This pressure difference makes winds get stronger. The larger the pressure difference, the faster the winds blow. As winds continue to build, they begin to spin. Finally, they spiral around the lower pressure area at the center called as ‘eye’ and the ring around the eye is eye wall.

The heavy rains and strong winds are the main effects of cyclones. Strong winds can pull up the trees by their roots, rip the roofs off houses and floods entire cities. A storm surge – a huge flow of water on to land can also cause serious flooding. In some areas like America, cyclones are referred as Hurricanes.



Once the source of warm, moist air is cut off the storm dies out. Nature is peaceful again. After 'all clear' the people and government pay attention to things like roads, transport management, power supply, pure drinking water, sewage lines and any epidemic spread in the area.

