Benchmark 1.1

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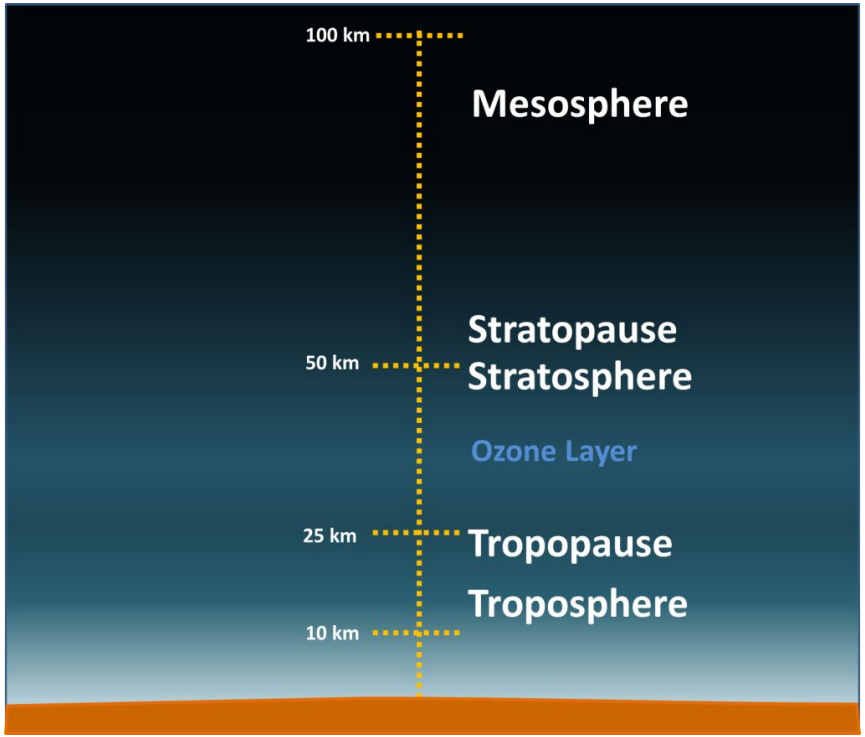
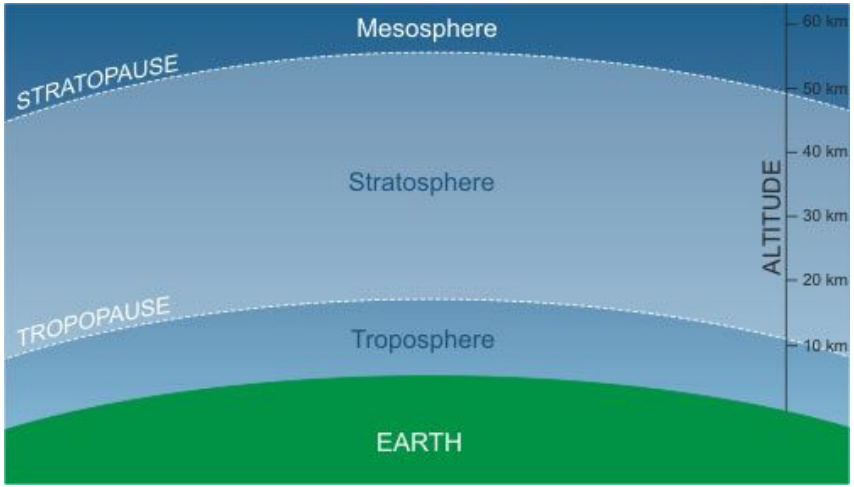
Troposphere

The troposphere is the layer that is closest to Earth. At the lower poles it extends to 12 km. This layer is where the weather occurs. The temperature decreases at the rate of 6.5 degrees per kilometer two the tropopause.



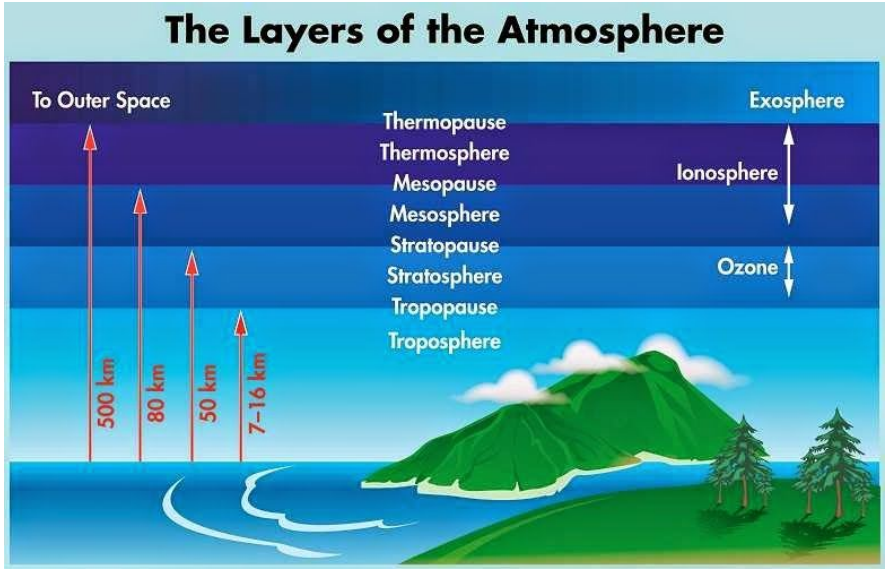
Tropopause

The tropopause is the area where the temperature remains constant between the troposphere and the stratosphere.



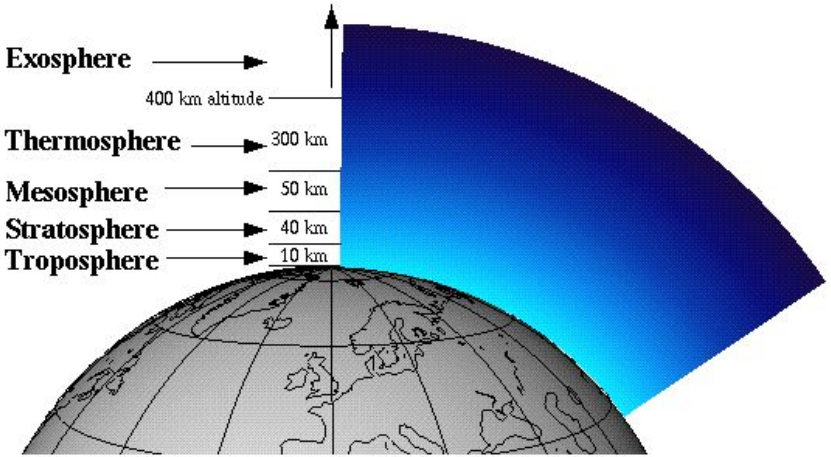
Stratosphere

The stratosphere extends about 50 km. This layer contains ozone which shields the earth from the sun It has jet streams which are high speed winds.



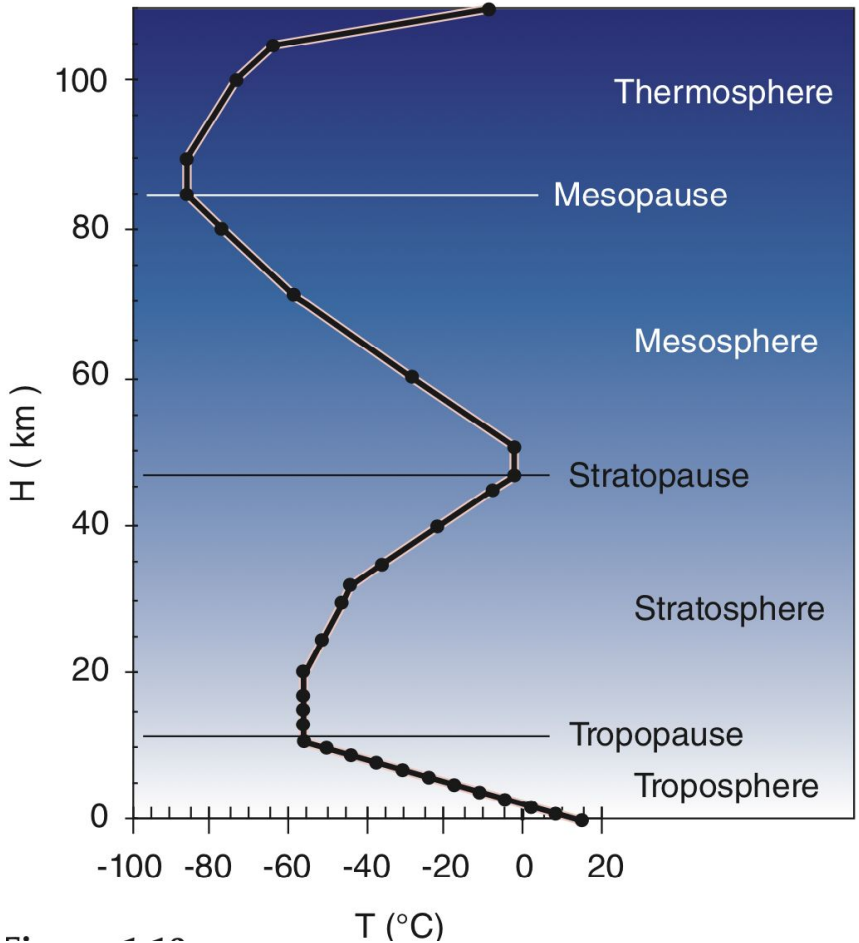
Stratopause

This layer is between the stratosphere and the mesosphere.



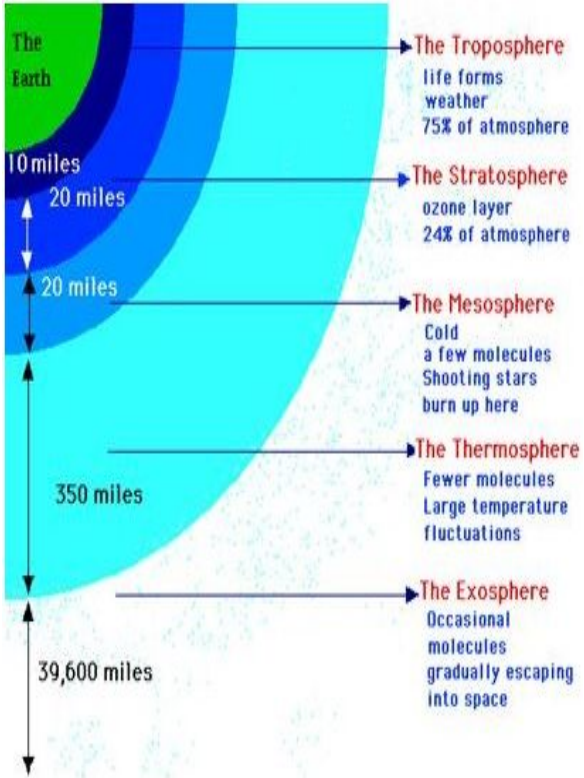
mesosphere

The mesosphere is the third layer of the atmosphere> It extends about 85 k. The mesosphere is the coolest layer.



Mesopause

In this layer the temperature remains constant. The region between the mesosphere and the thermosphere.



Thermosphere

The thermosphere is the upper level of the atmosphere. It extends to about 500 km. The temperature increase dramatically with an increase of elevation. The air is too thin to be measured in the thermosphere. There is an ionosphere that contains particles called ions.

Air

Air is an mixture of chemical elements and compounds.The air tends to move high pressure to low pressure.

Oxygen

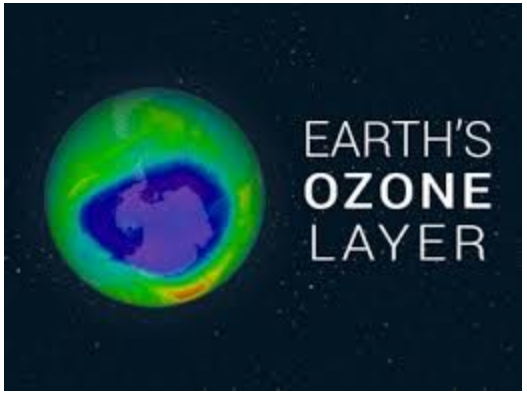
Oxygen is 21% of the air in the atmosphere. It is put there by photosynthesis in plants. The amount used and the amount produced is about the same therefore it is balanced.

Nitrogen

78% of the air in the atmosphere is maintained through the nitrogen cycle. Nitrogen is removed from the air by nitrogen fixing bacteria that live in the soil and roots of some plants. They change N into A N compound that all plants need.

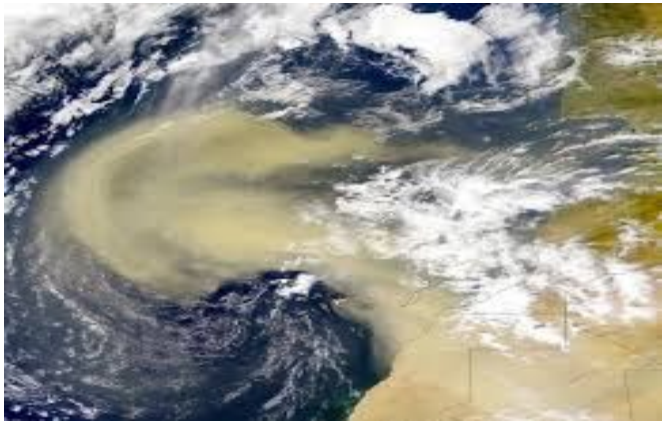
Carbon Dioxide

A product of oxygen consumption.



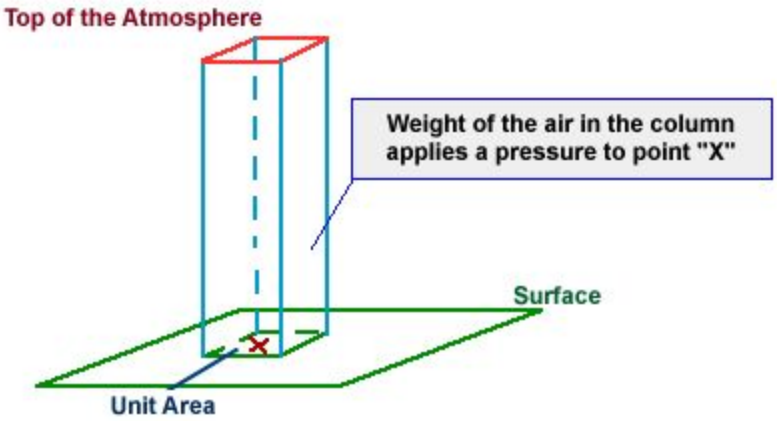
Ozone

Protects earth's inhabitants from UV rays from the sun. The ozone layer is damaged by Fluoro hydro-carbons (FHCs) spray cans, automobile and airplane exhausts.



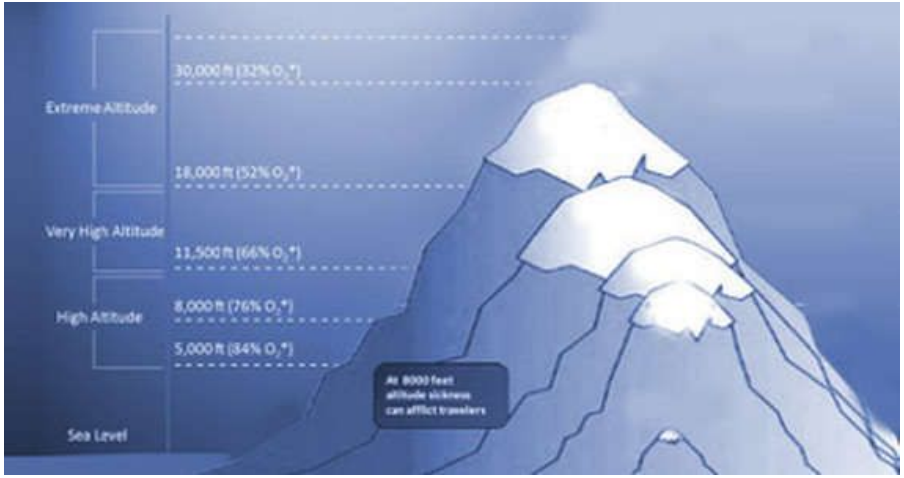
Solid Particles

Solid particles is wind blown dust also known as atmospheric dust.It is also vaporized meteoroids ocean salts and more.



Atmospheric pressure

Atmospheric pressure is the ratio of weight of the air to the area on which it presses.



Altitude

Altitude is when there is less air as your go up in the atmosphere. Therefore there is less pressure.

Temperature

Cool air is heavier than warm air therefore hot air rises.

Moisture

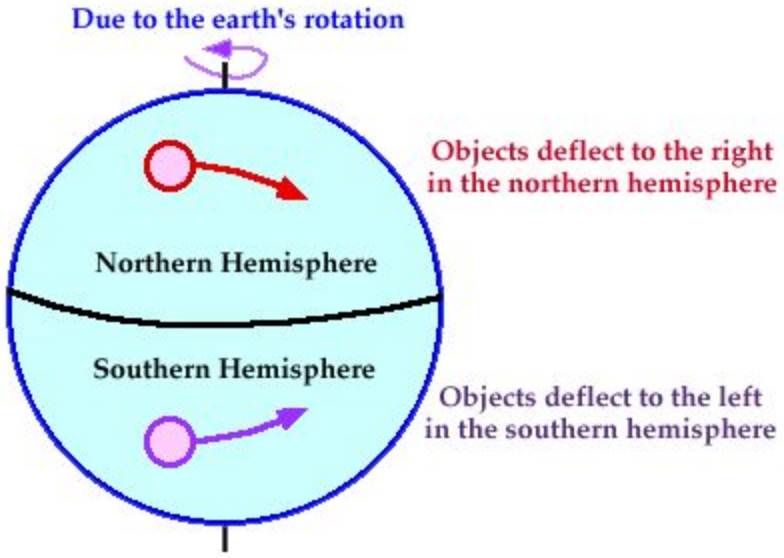
Dry air is heavier than moist air therefor water vapor rises.

Millibar

What official weather maps use to measure air pressure.

Wind

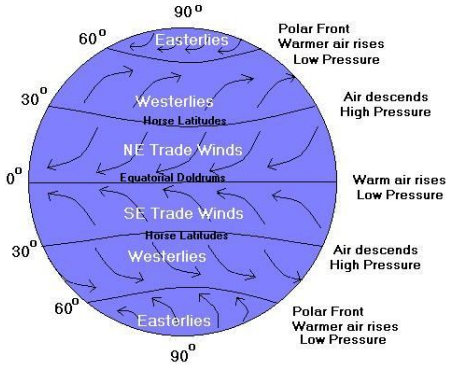
The perceptible natural movement of air



Coriolis

An apparent force that causes the earth to rotate.

Trade winds



Trade Winds

An wind blowing steadily towards the equator from the northeast.

Prevailing Winds

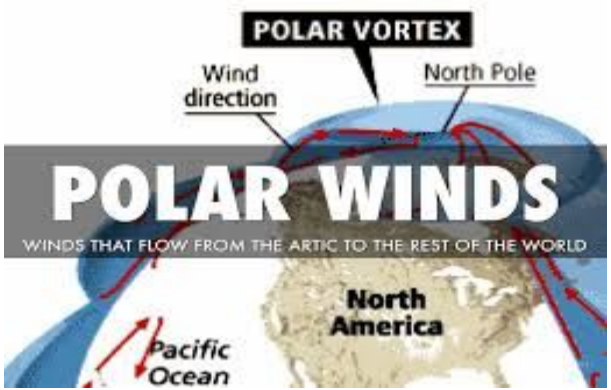
A wind that is from an particular place or season.

Doldrums

A equatorial region of the Atlantic Ocean with calms, sudden storms, and light unpredictable winds.

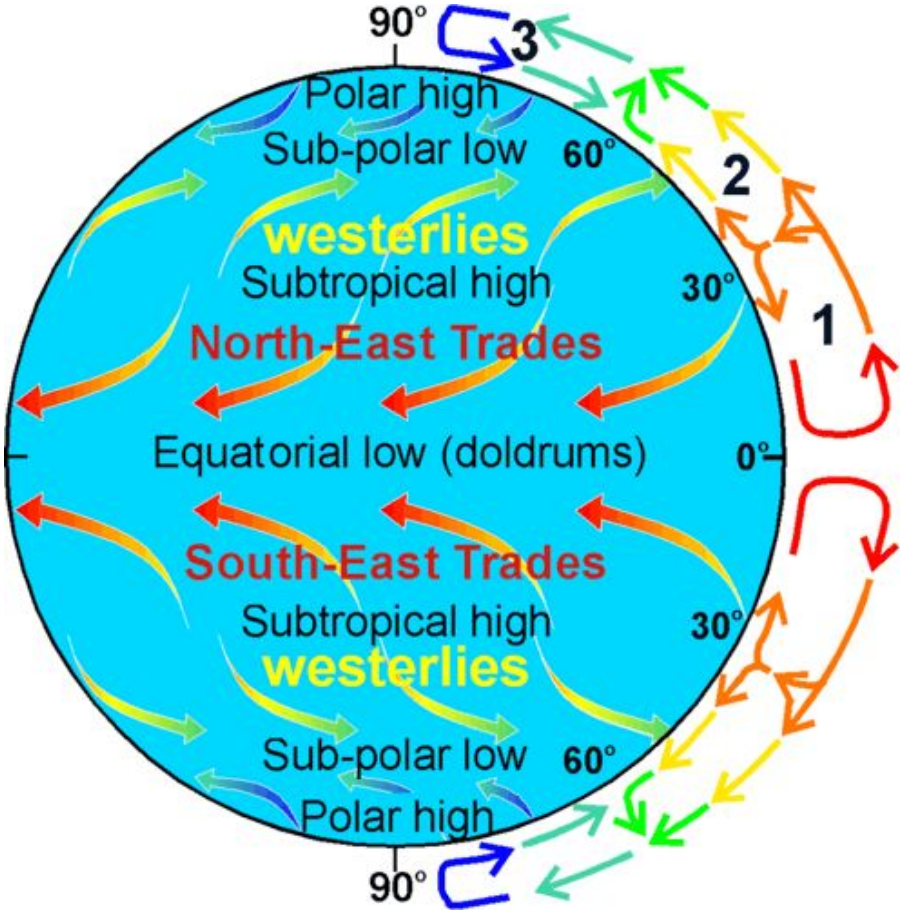
Horse latitudes

A belt of calm air and sea occurring in both the northern and southern hemispheres between the trade winds and the westerlies.



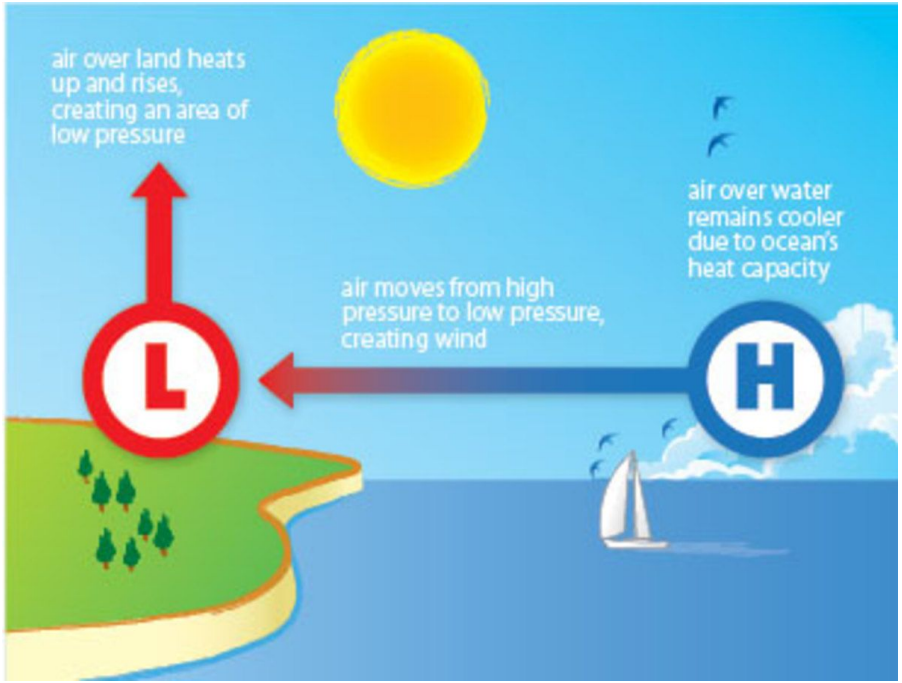
Polar winds

Polar winds begin near the North and South Poles. Frigid air in the winter sinks toward the ground creating a high pressure area at the poles. These winds occur in both hemispheres.



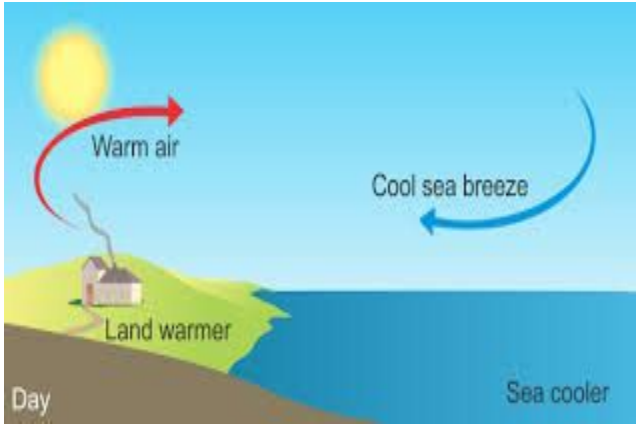
Wind belts

1. Prevailing southwestern lines
2. Northeast trades
3. Southeast trades
4. Prevailing northwestern lines
5. Polar easterlies



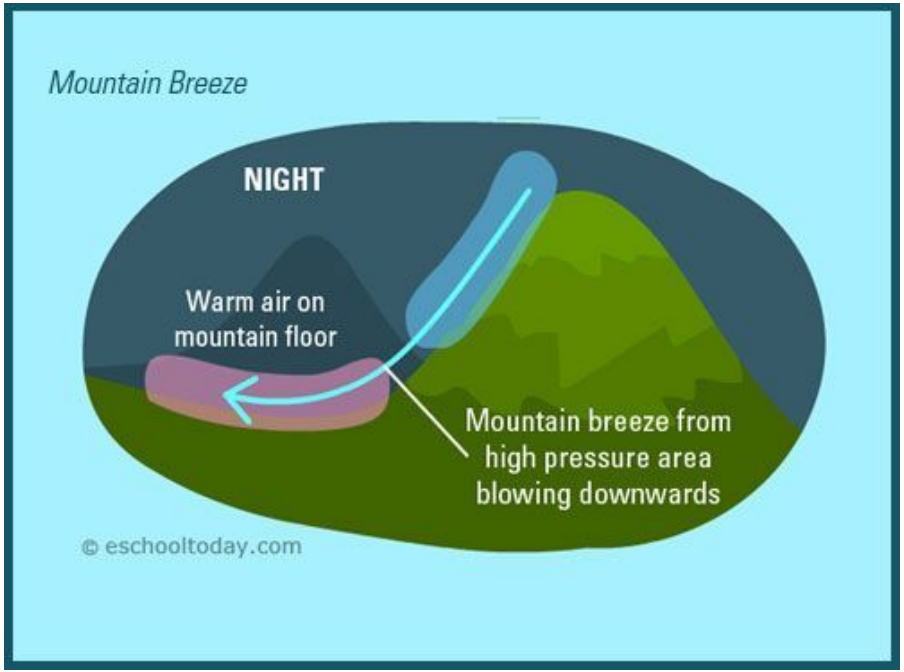
Local winds - sea breeze

During the day the land heats faster than the ocean creating low pressure. Over the land high pressure over the water therefore the water blows from the sea to the land.



Local winds - land breeze

At night land loses heat faster than the ocean creating high pressure over the land therefore the wind blows from the land to the ocean.



Mountain Breeze

During the day warm air rises up mountain slopes cooling and condensing the moisture at night. The cooler dry air blows down two the valleys below.