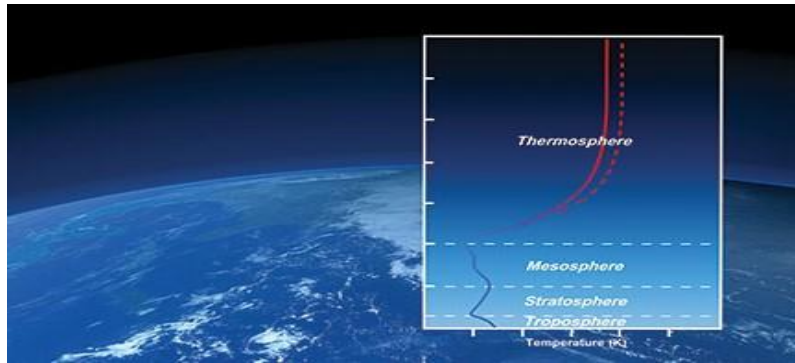
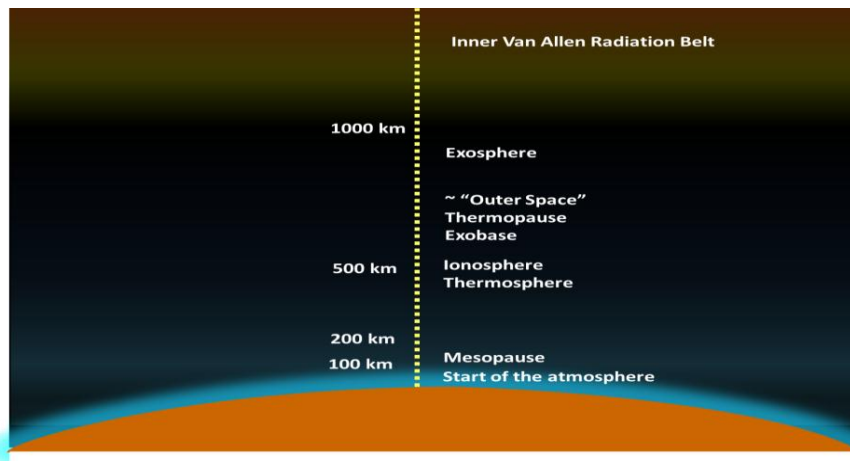


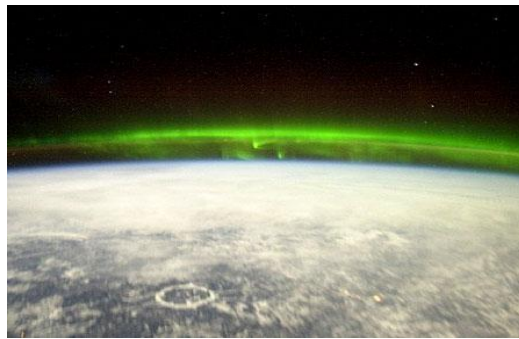
EARTH'S ATMOSPHERE: THE THERMOSPHERE AND MESOPAUSE



Among the 1000 km (600 miles) and 500 km (300 miles) of altitude below the exosphere is the “thermopause” or “exobase” on top of the “thermosphere” and its altitude varies with the solar activity. In this area there are ions of hydrogen and helium, while below this layer there are heavier gases as monoatomic oxygen. From this area you begin to perceive the atmospheric pressure, so you can say that this is the ends the “outer space”.



On top of “Thermosphere”, between 600 km (400 miles) and 200 km (120 miles) of altitude there is an accumulation of the denser layer of the “ionosphere” which include nitrogen, oxygen, ionized hydrogen and helium atoms and electrons which diffuse into layers according to their density where the lighter particles are in the upper zones, occurring convections due to changes in heat.



During the day the “ionosphere” layer intercepts high energy photons, strongly interacting with ultraviolet radiation of between 10 and 100 nm, X-rays and short radio waves, being highly dependent on the solar weather activity. The shocks generate heat vibrations reaching 1500 °K at 400 km (250 miles) of altitude and the frequent combination of ions and electrons, causing auroras and electrical currents.



Also in the ionosphere meteorites disintegrate resulting in shooting stars.

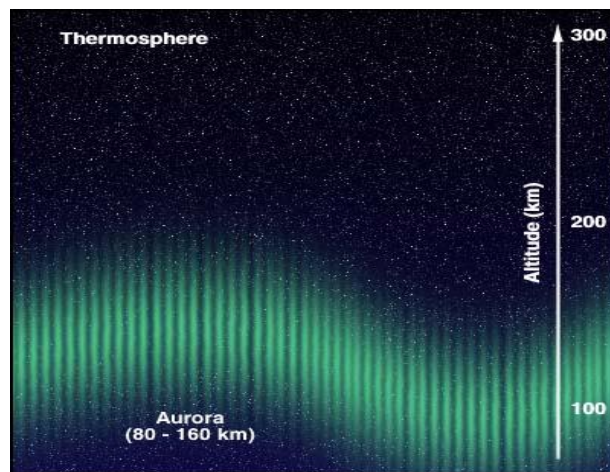


From the 160 km (100 miles) of altitude, particles begin to be close enough to spread sound, while at 120 km (75 miles) of altitude the effects of atmospheric entry of an object from outer space start to be felt, although they contain lower density than the thermopause which has temperatures of about 700 ° K.

Although the density is very small in this layer, the energized particles and hot (700 ° K) of the thermopause follow the toroidal direction of the Earth's electromagnetic field, penetrating through the polar regions of the magnetosphere

where the geomagnetic lines are well defined and directed vertically towards the bottom of the thermosphere where they will cause more electrical current and heat generating a convection motion organized by relatively stable densities in layers.

At 100 km (60 miles) of altitude is the “mesopause”, which is the coldest place on Earth with an average temperature of -85°C (-121°F) and which can drop to even -140°C (-220°F), separating the “mesosphere” from the “thermosphere “. In this layer the gases begin to mix with particles of oxygen and nitrogen and are no longer separated by densities and molecular weights. Often this layer is seen as the beginning of the “atmosphere”. From the bottom of the “mesopause”, the temperature begins to rise.



Source: <http://www.artinaid.com/2013/04/earths-atmosphere-the-thermosphere-and-mesopause/>