

1. WHAT DO YOU UNDERSTAND BY THE PHENOMENON OF THE INVERSION OF TEMPERATURE? EXAMINE HOW IT IMPACTS THE ATMOSPHERE AND THE WEATHER.

Temperature inversion is a reversal of the normal behaviour of temperature in the troposphere. Under this meteorological phenomenon a layer of cold air is overlain by a layer of warmer year. Temperature inversion is frequent but usually of short duration.

Favourable conditions for temperature inversion

Long winter nights: Loss of heat by terrestrial radiation from the ground surface during night may exceed the amount of incoming solar radiation.

Cloudless and clear sky: Loss of heat through terrestrial radiation proceeds more rapidly without any obstruction.

Dry air near the ground surface: It limits the absorption of the radiated heat from the Earth's surface.

Slow movement of air: It results in no transfer or mixing of heat in the lower layers of the atmosphere.

Snow covered ground surface: It results in maximum loss of heat through reflection of incoming solar radiation.

There are certain types of temperature inversion like frontal temperature inversion, vertical advection, radiation Inversion, subsidence inversion.