

Our Atmosphere's Mesosphere and Lower Thermosphere are Cooling and Contracting



The region of the atmosphere from 48 km to 105 km (30 miles to 65 miles) above the Earth's surface is called the mesosphere and lower thermosphere or MLT.

NASA TIMED/SABER measurements of temperature, geopotential height, & thickness reveal a cooling, contracting mesosphere & lower thermosphere (MLT).

The SABER data and consideration of solar activity and the growth of CO₂ since the late 1700's strongly suggest that the MLT during the recent two solar minima are the coldest since the onset of the Industrial Age. This trend could continue with increasing atmospheric CO₂

This poses potential threat to future space flight and space habitability. Space debris is slowed down by atmospheric drag, causing it to re-enter and burn. Less atmosphere at these altitudes will mean more space debris will stay in orbit, creating more risk for collisions and damage to spacecraft.



The atmosphere surrounds Earth and protects life by absorbing UV radiation, retaining heat, and reducing temperature extremes between day and night. This is all through a delicate balance of energy input and output which is influenced greatly by greenhouse gases such as CO₂.