Current composition of the atmosphere

Current composition of the atmosphere

Some people are surprised to learn that oxygen isn"t the most abundant gas in Earth"s atmosphere composition.

Based on the relative volumes of the gases in Earth"s atmosphere, nitrogen is actually more than 3 times more than oxygen.

Because the troposphere is the lowest atmosphere layer, it contains 75 percent of the atmosphere’s mass.

From largest to smallest, Earth"s atmosphere composition contains nitrogen, oxygen, argon, CO2, and trace gases. Because water vapor is highly variable geographically, it"s excluded from this total.

While nitrogen is the most abundant gas in Earth’s atmosphere, it only makes up 0.005% of Earth’s crust in weight (David Darling).

Nitrogen is incredibly stable and requires a lot of energy to change forms.

Even though its volume in Earth’s crust is relatively small, nitrogen plays an important role in the nitrogen cycle.

As part of this cycle, nitrogen constantly exchanges between the atmosphere and living organisms.

Earth has the conditions for life to flourish. Oxygen is essential to human life as our lungs respire oxygen and uses it in metabolism.

So even though nitrogen is plentiful, we need oxygen to drive chemical reactions that produce energy.

As an inert gas, argon doesn’t bond or do much in the atmosphere.

This is why there’s no argon cycle. But we have nitrogen and carbon because of their ability to bond with other elements.

Current composition of the atmosphere