



Studying the distribution of the air gas composition in the surface air layer



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Purpose and motivation

*Main objects of
research*

Ozone

Methan

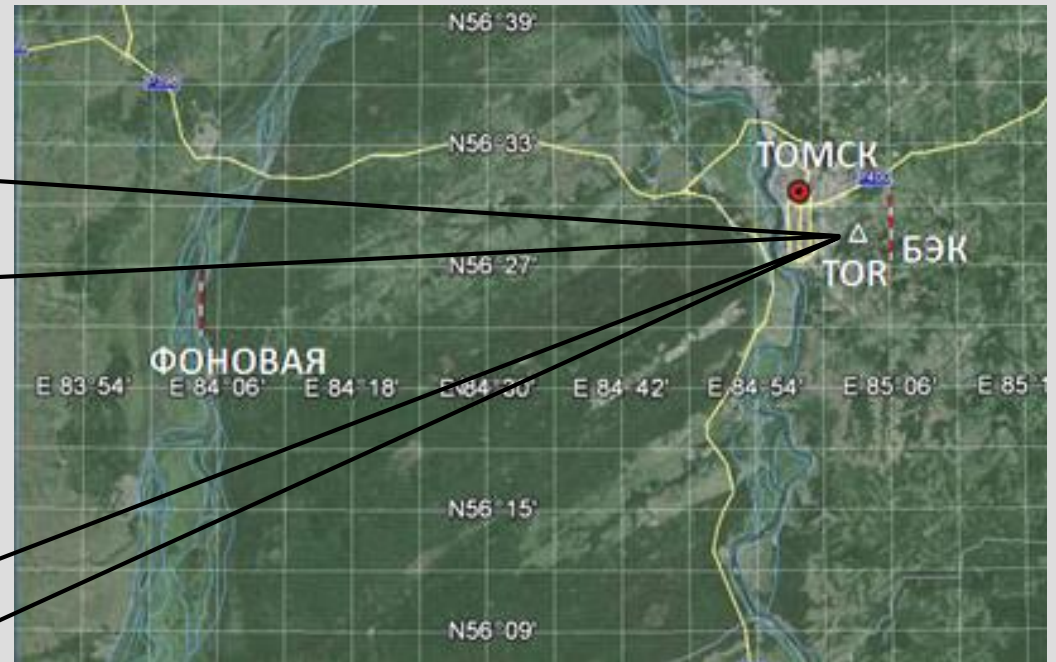
*Carbon
monoxide*

Sulfur dioxide

The monitoring of the content of surface O_3 is carried out in order to prevent an increase in its content, since this can lead to a deterioration in air quality.



Research method

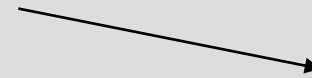
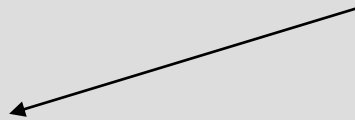




Atmospheric ozone

Sources of ozone

(The source of ozone in the troposphere is chemical reactions involving nitrogen oxides and volatile organic compounds)



Natural

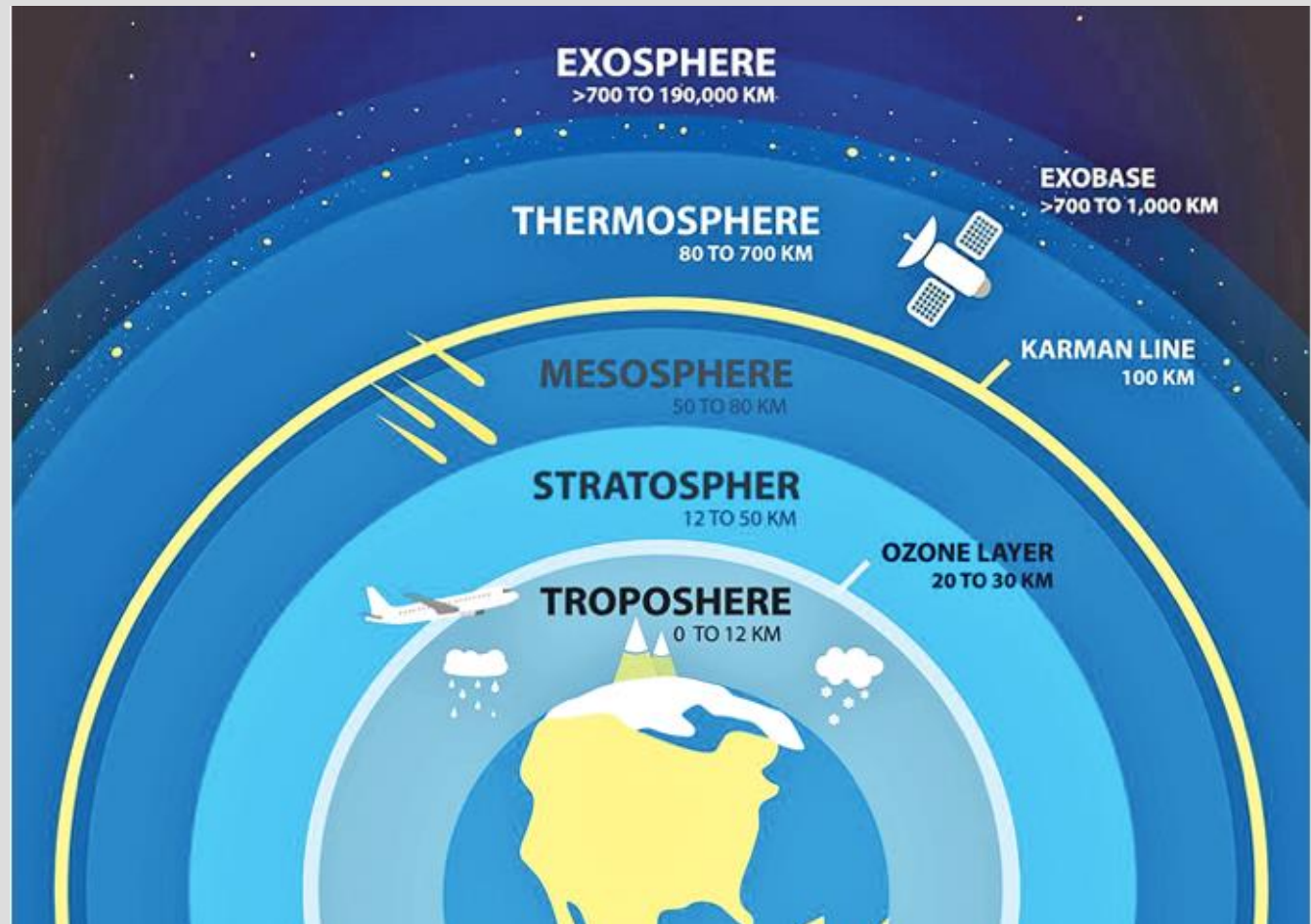
Artificial



Spatio-temporal characteristics

On average the ozone in high latitudes is greater than in low.

The highest ozone density is observed at the altitude of 18-26 km





Tomsk



Annual course

Maximum

Summer and spring

Crimea

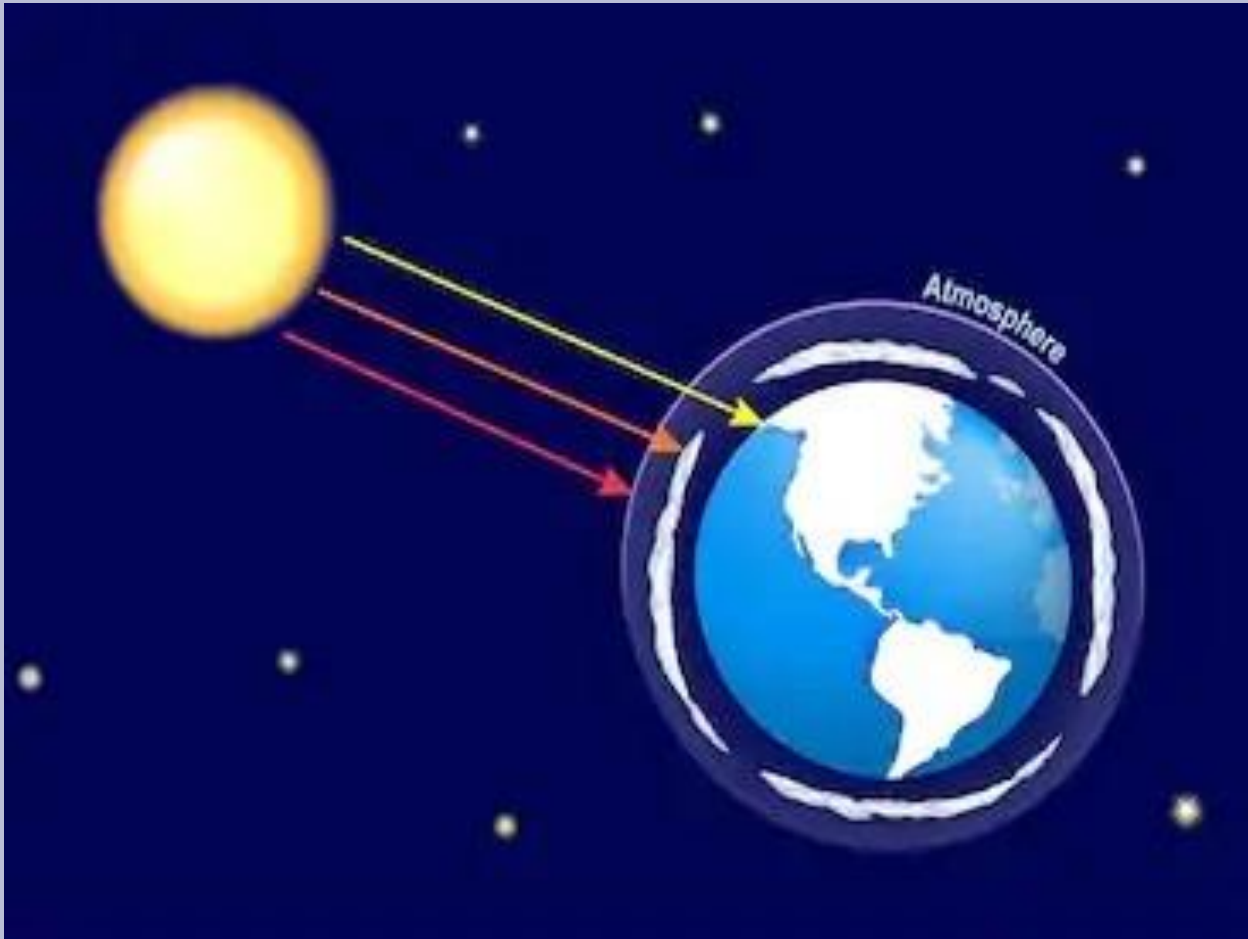
Daily course

*Morning and evening
hours < noon and afternoon*





Concentrations of ozone in atmosphere



The smell of ozone is felt approximately at its concentrations of $21 \mu\text{g} / \text{m}^3$, and an excess of this concentration by 10 times is a safety margin for living organisms.

$2.1-21 \mu\text{g} / \text{m}^3$



Depletion of the ozone layer



Ozone in polar region

The main substances contributing to the destruction of O₃

*Simple substances
(hydrogen, oxygen,
chlorine, bromine
atoms)*

*Inorganic
compounds (hydrogen
chloride, nitrogen
monoxide)*

*Organic compounds
(methane, fluorochloro and
fluorobromofreons that emit
chlorine and bromine
atoms)*



Conclusion



*Thank you
for your attention!*