

## Properties, Functions, and Principles of Using Atmosphere Air as a Natural and Environmental Resource

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Atmosphere air (AA) has a special place among the natural resources (NR). Unlike other NR, it features a number of significant distinctions: presence of multiple components and multifunctionality. This makes it difficult to determine place of AA in the existing classifications of NR. Thus, in an original classification by N.F.Reymers which takes origin and place of NR as the basis, AA is present in several classification units at the same time. As for capability of replacement of some resources with other ones, they are divided into replaceable and irreplaceable. The gas components of atmosphere, as well as its ion components are irreplaceable ones. By possibility to be restored through natural cycles, resources usually considered as renewable and not renewable.

An attempt of classification of AA as a natural and environmental resource based on unified scientific methodological approach taking into account all the above peculiarities has been done.

The AA functions' classification taking into account its multifunctionality has been proposed. All the functions have been divided into two groups: extractive and non-extractive ones, - each of which has been divided into classes. The group of extractive ones is made up of the resources that are either sources of energy or products directly consumed by humans, or used in the technological processes as raw materials. In each class, several sub-classes have been defined: atmosphere water vapour, noble gases, ozone, wind energy, wave energy, atmosphere electricity etc.

In the second group – non-extractive, the resources securing existence of biosphere as well as protective features of the environment have been included. Such functional classes as climate forming, bioecological, and social belong to them as well. Each of them has been divided into several sub-classes. For instance, it has been proposed to include recreational, aesthetic, scientific, and defence sub-classes into social class.

AA cannot belong to a country or continent, development of bases for its utilization and protection is needed. Multitier structure of the AA rational use and protection has been offered. Under zero level, the resource itself should be understood, i.e. AA. The next tier supposes control of rational use, which is systematic exercise of targeted impact of the society on AA taking into account its functional possibilities and securing its protection as a natural resource.

Those functions that are not connected with the society are represented at the second tier. These are protective and productive functions as well as function securing organisms' life cycles.

Those functions that condition some types of economic, biological, and social activities of humans have been categorized under the third tier.

The fourth tier is formed by the human activities that directly connected with the AA utilization as a raw material. These are processes of burning various types of fuel in transport, as well as in thermal power plants. Just at this tier the negative impact of atmosphere through its pollution happens.