Geophysical Research Abstracts
Vol. 19, EGU2017-2511, 2017
EGU General Assembly 2017

Dynamics of forest populations in the mountain resort region of the North Caucasus

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Prehistoric formula of forest species composition of the resort region Caucasian Mineralnye Vody (RR CMV) in the North Caucasus is 6Q3Cb1Fe [1]. According to it, undisturbed forests of the region consisted of the pedunculate oak (Quercus robur L.) and the durmast (Quercus cerris L.) by 60%, the European hornbeam (Carpinus betulus L.) by 30% and the European ash (Fraxinus excelsior L.) only by 10%. At present the formula of forest composition of the region is 5Fe3Cb2Q, according to it, the rate of oak-groves (the most valuable to resort landscape gardening) has reduced to 20%, and the ash-tree, though the rate of the hornbeam has not changed, increased up to 50%. Forest breeding populations in the RR CMV are referred to natural medical resources as they have high rehabilitation and climate-regulating properties, the change in forest breeding populations influences the conditions of the resort climate-landscape-therapy.

The researches conducted in the perfect oak wood of vegetative origin in Beshtaugorsky Forestry Area (BFA) of the RR CMV have shown the reduction of the pedunculate oak in the tree-stand composition during 1984-2014 from 10 to 8 units in the composition: the European ash (1 unit) and the crataegus monogyna (Crataegus monogyna Jacq.), the checker tree (Sorbus torminalis (L.) Crantz), the common pear (Pyrus communis L.) have appeared [2]. The rate of the pedunculate oak decreased from 10 units to 9 in the perfect planting of the pedunculate oak of the artificial origin (Mashuk section of the forestry of BFA of the RR CMV) during 1986-2016. Among accompanying breeds there was the English field maple (Acer campestre L.), the Chinese elm in singular (Ulmus parvifolia Jacq.), the single-seed hawthorn. The reliable regrowth (4C3Fe3Ac+Q+Cm+Pc+Up) in number of 3,9 thousand pieces/hectare defines the perspective of complete replacement of the oak crop in the future on planting with dominance of the hornbeam and the involvement of the ash-tree and the English field maple.

Succession of the oak replacement in natural stand of the vegetative origin can be explained with the soil fatigue under the oak forest inhibiting its own regrowth [2]. However, you can observe the same succession of the oak replacement by other native species in the artificial planting of the oak on the virgin meadow lands. Therefore, the exogenous factors proceeding against the background of global warming during the number of decades are the reason of the succession. The nature of this process demands further studying.

References

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