

Detection of the Dangerous Fire Zones of the Forest Cover of Azerbaijan on the Basis of Space Data and the Fire Influence on the Biological Variety

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Aim of the study: The main goal of our work was with the help of space images to find dangerous zones of fires and determine the biological diversity of the flora of these zones and the influence of the parameters of complex meteorological elements of the forest cover of the Lankaran region of the Republic of Azerbaijan. Forest fires destroy the diversity of species and the diversity of ecosystem, that is, the diversity of ecosystems themselves. As a result of fires, the protective, water-protective and other useful properties of the forest are reduced, the fauna, structures, and in some cases settlements are destroyed.

Material and Methods: The degree of fire hazard of separate sections of the forest fund is determined by the scale of assessment of forest areas in terms of the degree of danger of fire occurring on them, which is based on the scale developed by the scientist I.S. Melekhov. Fire danger of forests is determined by the type of forest, human activity, lightning discharges, spontaneous combustion of peat crumbs and agricultural fields, etc. in hot weather or in the so-called fire season. The composition, quantity and distribution of forest combustible materials depend on the type of forest, and also the moisture content of these materials to a large extent. Different parts of the forest are also characterized by a different fire hazard. Studies were carried out to identify fires in the forest cover of Azerbaijan. To display forest fire in 2015, space images were taken using the spectroradiometer of Modis equipment installed on the Terra and Aqua satellites (4). After a forest fire, forest development takes place in two directions: recovery and disappearance. Time and speed of recovery depends on the degree of harm caused by the fire and on the type of forest. The geographic relief of the area, like the wind, affects the parameters of the fire and the development of a fire. From this it follows that, with an increase in the inclination of the earth's surface from 0 to 150, the propagation velocity increases 1.6 times. With a propensity of 350 the speed of fire spread is 11 times, and increases by 450-41 times. The inclination of the steepness after 200 fire is 1.3 times, and in 450 it increases 3.6 times. The intensity of the fire and the size of the area are expanding dramatically. The burning of green moss, shrubbery, sphagnum, fallen leaves and grains occurs when the moisture content is 26%. Therefore, by the condition of air, a method for determining the degree of fire hazard in the forest requires control over the moisture content of combustible materials.

Results: As a result of the research, a map-scheme of the forest cover was developed, indicating the times of fire hazards of the Lankaran district. On the basis of identification, it was revealed that the high value of the complex indicator corresponds to a low area of fire hazard. With the help of space images dangerous zones of fire are found and biological diversity of flora of these zones is determined.

Keywords: Forest ecosystems, forest cover, biological diversity, fire hazard, space images.