

## GEOGRAPHIC ASPECTS OF RADIOACTIVE CONTAMINATION OF THE CHELYABINSK REGION IN IMPACT OF THE ACTIVITIES OF PRODUCTION ASSOCIATION MAYAK

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In the 40's, in Chelyabinsk Region in hinterland of the former Soviet Union, there was built nuclear complex named Production Association Mayak, especially for production of nuclear weapons. As the USSR government tried to lower the building investments, there were built no sufficient technical facilities for environmental protection. Activity of PA Mayak was the source of radioactive contamination of both Ural Mountains region, and, more severely, the northern part of Chelyabinsk region by radionuclides including <sup>137</sup>Cs and <sup>90</sup>Sr, with long radioactive half-lives.

In the first years of the PA Mayak operation there were three accidents accompanied by large releases of radioactivity in the environment:

*First radiation accident:* Techa River contamination (1949-1956, ~ 100 PBq);

*Second radiation accident:* Kyshtym accident (1957, ~ 70 PBq);

*Third radiation accident:* dispersion of radioactive dust (1967, ~ 20 TBq).

The aim of this work was to point out geographical, radioecological and radiobiological aspects of the problems of Chelyabinsk Region caused by activities of PA Mayak. We exactly analyzed from viewpoint of its environmental and socio-economic impacts to stricken areas three accidents in PA Mayak, which caused this environmental contamination. Thereafter we tried to outline the possibilities of revitalization and of the next utilization of contaminated areas. Obtained results are presented on several maps.

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