

*The completed scientific and research work № 2252 “Development of Databases Complex and Processing Algorithms for System Prediction of Complex Anthropogenic and Natural Systems Behavior” – Research Advisor M.Z. Zgurovskiy.*

As a result of the project, in the process of Russia and Ukraine WDC cooperation Russian and Ukrainian WDC sites were complemented with the new information resources on the problems of the natural disasters regime, implementing of the sustainable development concept and methods of complex dynamical systems analysis using the methods of artificial intelligence, fuzzy logic and the theory of catastrophes and theory of critical phenomena.

New results have been gained in research and practical implementation of sustainable development. Non-stationary of different kinds of natural disasters, the regime of which is significantly affected by climate and techno-sphere changes has been investigated. The quantitative assessment of sustainable development according to the group of economic, environmental and social indices, indicators and data sets (if taking into account the totality of threats) has been done; the analysis of the impact of these threats to sustainable development in different countries has been conducted. The Ukrainian project participants have introduced mathematical models, software products, and a methodic for the main parameters of sustainable development of countries-participants of the project in terms of their geographical location with the aim at establishing recommendations for strategic planning and effective management of the countries-participants of the project. The group of global risks and threats for the development of these countries have been analysed and scenarios aimed at avoiding undesirable consequences and disasters caused by the action of these factors have been developed.

In general, it was the complex study of crisis processes prediction on the basis of the behaviour of complex natural and anthropogenic systems.

*The results of the work have been implemented in the educational process of teaching such disciplines as “Fundamentals of Sustainable Development”.*

During the year of paper defence on the basis of the conducted work 2 course books have been published, 18 articles have been published, 22 presentations have been made at conferences, including 10 at international ones. According to the research results students have defended 2 diploma papers.