

## Risks of aqua-territorial systems formation in Russia.

Vyacheslav Baburin

Lomonosov Moscow State University, Faculty of Geography, Russian Federation (vbaburin@yandex.ru)

Coastal zones are one of the most powerful natural attractors, which create maximum inter- environmental diversity, as a necessary condition for evolution. The derivatives of these natural attractors are socio-economic attractors which trigger the formation of aqua-territorial systems (ATS), as nodes of coastal zones. Since the Great Geographical Discoveries era, there has been a global shift of population and productive forces to the coastal zones.

In our days practically all demographic and economic growth poles are located at the distance of not more than 200 km from the coast. In this context, one can speak of the formation of a double 200-mile zone (including the shelf - the exclusive economic zone of countries).

As a result of these processes, there is built up a space-time chain: the formation of port-industrial complexes - aqua-territorial systems (aqua-territorial zones) as analogues of megacities.

Achievements in scientific and technical progress allowed to start the exploitation of natural resources in the shelf zones. So the consequence of the growth in oil and gas production on the continental shelf was the process of transport and communication production infrastructure and logistics formation (drilling platforms, pipelines, cable lines, specialized ports and industrial complexes with them, including ocean engineering). Coastal zones (including both the aquatic and territorial components) start to be areas of increased fishing activities concentrations (including mariculture). On the seas and oceans coasts the largest resort and recreational zones of the Earth are located. In the ATS cores the specific weight of the residential component is increasing. All this leads to increased competition and conflict of functions, especially in the aqua-land relations between different geo-users. This factor leads to the economic development of most risky by nature characteristics parts of coastal zones.

All of this calls for creating the new models for the Russian coastal zones development. These models of ATS formation in the areas of port-industrial, coastal-recreational, sea-industrial oil and gas and other clusters should take into account the interaction of two spaces: innovative (newly created) and factor (inherited) spaces. It is well known that the formation of aqua-territorial systems begins with the release of socio-economic subsystems beyond the boundaries of coastal zones.

This release is impossible without:

1. Inclusion in the agglomeration processes the intracontinental and marine subsystems, which are located near the coastal zones;
2. Creation of a high-speed transport and communication infrastructure;
3. Proportions optimization in multilateral relations;
4. Administrative and institutional implementation.

But the principles of social and economic efficiency increasing by increasing the density of economic development in coastal zones come into conflict with natural hazards. As a result - the vulnerability of ATS elements increases too.

The resolution of this contradiction is possible on the basis of segregated land use and applicants for the sections of the coast or water area stratification based on the factors of significance for them of specific spatial localization. For the inherited socio-economic infrastructure, this involves changing the function of the place, for the innovative functions - embedding in the existing aqua-territorial landscape.