

Use of the Principles of Fractal Urbanism for the Adaptation of Coastal Territories of Large Rivers to Climate Changes

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ABSTRACT

Global warming increases the likelihood of intense natural phenomena such as hurricanes and floods, which can lead to serious damage in coastal areas. Climate is an extremely important driver of ecosystem processes that directly affects the hydrological regime through the amount and type of precipitation, which in turn changes the boundaries of the coastal area. Sea level change can affect the coastal area, especially where there is low relief.

The creation of a comprehensive strategy for adapting coastal areas to climate change is a critical task that will allow: analyzing potential threats and vulnerabilities of the coastal zone to climate change, developing specific measures to minimize risks, including protective structures, changes in land management and other engineering solutions. The specifics of recreational use of urban areas, including the formation of landscape structure and comprehensive system of greening the coastal area in conjunction with the water area, will allow for adaptation to climate change.

A systematic approach to the urban planning organization of coastal areas includes complex environmental and recreational tasks. The study examines in detail the need to create a comprehensive strategy for adapting the coastal area to climate change. The authors substantiate a set of measures, including activation of water protection functions of coastal areas, rehabilitation of disturbed areas, use of recreational and urban planning potential of coastal areas to form a recreational base along the water area, development of an integrated system for managing coastal zone processes, and integration of eco-clusters into the structure of coastal areas.

KEY WORDS: coastal areas, climate change, adaptation, urban space, fractal urbanism, ecological cluster

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