

## The Spatial Classification of China near Sea for Marine Biodiversity Conservation Based on Bio-Geographical Factors

**Authors :** Huang Hao, Li Weiwen

**Abstract :** Global biodiversity continues to decline as a result of global climate change and various human activities, such as habitat destruction, pollution, introduction of alien species and overfishing. Although there are connections between global marine organisms more or less, it is better to have clear geographical boundaries in order to facilitate the assessment and management of different biogeographical zones. And so area based management tools (ABMT) are considered as the most effective means for the conservation and sustainable use of marine biodiversity. On a large scale, the geographical gap (or barrier) is the main factor to influence the connectivity, diffusion, ecological and evolutionary process of marine organisms, which results in different distribution patterns. On a small scale, these factors include geographical location, geology, and geomorphology, water depth, current, temperature, salinity, etc. Therefore, the analysis on geographic and environmental factors is of great significance in the study of biodiversity characteristics. This paper summarizes the marine spatial classification and ABMTs used in coastal area, open oceans and deep sea. And analysis principles and methods of marine spatial classification based on biogeographic related factors, and take China Near Sea (CNS) area as case study, and select key biogeographic related factors, carry out marine spatial classification at biological region scale, ecological regionals scale and biogeographical scale. The research shows that CNS is divided into 5 biological regions by climate and geographical differences, the Yellow Sea, the Bohai Sea, the East China Sea, the Taiwan Straits, and the South China Sea. And the bioregions are then divided into 12 ecological regions according to the typical ecological and administrative factors, and finally the eco-regions are divided into 98 biogeographical units according to the benthic substrate types, depth, coastal types, water temperature, and salinity, given the integrity of biological and ecological process, the area of the biogeographical units is not less than 1,000 km<sup>2</sup>. This research is of great use to the coastal management and biodiversity conservation for local and central government, and provide important scientific support for future spatial planning and management of coastal waters and sustainable use of marine biodiversity.

**Keywords :** spatial classification, marine biodiversity, bio-geographical, conservation

**Conference Title :** ICMBBO 2019 : International Conference on Marine Biology and Biological Oceanography

**Conference Location :** Sydney, Australia

**Conference Dates :** January 30-31, 2019