PROTECTION OF SEAFLOOR GEOMORPHIC FEATURES AND BENTHIC HABITATS IN LARGE MARINE ECOSYSTEMS AND EXCLUSIVE ECONOMIC ZONES OF THE EAST SEA

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Abstract

The ocean contains a vast amount of biodiversity and this biodiversity depends on the heterogeneity of geomorphic habitats. Geomorphic habitats provide a dynamic physical framework that supports a high diversity of habitats and species across a range of scales. Using publicly available datasets of seafloor geomorphic features and benthic habitats, we assessed the relative representativeness of features, by assessing feature coverage and diversity, within existing protected areas of both Large Marine Ecosystem (LMEs) and Exclusive Economic Zones (EEZs) of the East Sea. Protection of geomorphic features in the East Sea varied between 0.044 and 10% within the exclusive economic zones (EEZ) and 0.9-3.7% for the large marine ecosystems (LME). Diversity of these features range in the second quartile globally with the Simpsons diversity indices ranging between 1-2.8 for EEZs and 3.2-4.6 for LMEs. Assessing the coverage and diversity of protected features within EEZs and LMEs can assist nation states and ecosystem management regions to reassess and plan for their obligations with regards to the UN sustainable development goals.

Key words: seafloor geomorphic features, benthic habitats, Large Marine Ecosystem (LMEs), Exclusive Economic Zones (EEZs), the East Sea