IS GLOBAL CHANGE A REAL THREAT FOR CONSERVATION OF THE NW MEDITERRANEAN MARINE BIODIVERSITY?

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An increasing body of evidence is demonstrating that global change is already affecting terrestrial and marine ecosystems. Coastal marine habitats are a main subject of attention because they harbour a high biological diversity, are among the most productive systems of the world and present high anthropogenic interaction levels. Most studies on the effects of global change on marine ecosystems have focused on tropical habitats but effects on marine habitats at higher latitudes have been increasingly reported during the last decades. We examined the case of the NW Mediterranean sublittoral habitats for which a warming trend in water temperature has already been detected. The actual and potential responses of different taxonomic groups have been examined. We found a clear trend in northward range shifts for a number of species and an increase in disease and mass mortalities events during the last two decades. Therefore, significant modifications of diversity are expected in the next decades in the NW Mediterranean (at least at local scale), through species’ immigrations, extinctions or shifts, and potential subsequent cascade effects. These modifications could ultimately disrupt ecosystem functions. Since the Mediterranean, with only 0.82 % of oceans’ surface, harbours 4 to 18 % of total marine biodiversity, potential effects of global change in this area could have dramatic consequences for the conservation of the marine diversity, world-wide.