

## Special session: The Mediterranean: conflicts, ecological and economic values of a changing sea environment

The marine ecosystem of the Israeli Mediterranean coast, located within the Levantine Sea in the Eastern part of the Mediterranean basin, has undergone significant changes in recent decades. The origin of these changes dated back to 1869 the opening of the Suez Canal. Its continuous enlargement of the canal and the similarity between the Levantine Sea and the Red Sea in terms of temperature and salinity is allowing for the progressive introduction of many species of Indo-Pacific origin into the Eastern Mediterranean Sea (known as Lessepsian immigrants). This phenomenon is almost entirely unidirectional, i.e. into the Mediterranean rather than out of it. These introductions accelerated during the second half of the 20th century and the first decade of the 21st century.

Other factors that have been contributing to the changes of the marine ecosystem of the Israeli Mediterranean coast include increased commercial and recreational fishing activity, development pressures and climate change. The Levantine basin has the hottest, saltiest and most nutrient poor water in the Mediterranean Sea, as a result of high evaporation rates, very low riverine inputs and limited vertical mixing. It is also characterized by an abundance of empty niches that can be used by invasive species that exist in the Levant ecosystem. This may be due to the low biodiversity in the region and the apparent existence of the native species in a habitat which is thought to be at the limits of their tolerance levels (Corrales et al. 2017).

Overfishing (of all kinds) is yet one of the most pressing phenomena in the Mediterranean Sea and globally. It has put a growing strain on the environment. On a global scale, it has been estimated that overfishing resulted in a 50% decline in fish catch over the last few decades. , Israel has experienced a 45% decline in fish catch, along with a significant increase in the bycatch. Currently, Israeli fishing provides only 2,600 tons per year, amounting to just a very small percentage of the country's food fish consumption.

Given the aforementioned stressors and threats and the interconnectedness between species populations, environment and human activities, a shift towards a more comprehensive analysis and management of human activities, such as ecosystem-based management (EBM), is required.

In our session we will present the conflicts raised from climate change and other stressors. We will focus on a unique phenomenon of aggregation of sharks in the Mediterranean Sea Along the beach line and conflicts that are emerging around this phenomenon that are related to human curiosity. We will also focus on the economic aspects of these changes in the Mediterranean, and the environmental aspects associated with the sensitivity of the marine environment to gas and oil pollution.