

Looking for environmental drivers of blue whiting recruitment in the Porcupine Bank (NE Atlantic)

F. Baldó, M. Chowdhury, G. González-Nuevo, F. Velasco, I. Laiz

Although temporal and spatial match and mismatch of fish larvae with their potential prey organisms is considered the main factor regulating the year-class strength in marine fish populations, different environmental forcings also influence the survival rate of larvae and therefore recruitment. In 2020, the highest abundance of year-class recruits (total length < 20 cm) of *Micromesistius poutassou* was observed in the record of the Spanish Bottom Trawl Survey on the Porcupine Bank (September) from 2001-2020. Various environmental parameters, namely chlorophyll concentration, surface salinity, temperature, ocean currents, and wind data were used to study their potential impact on the blue whiting eggs and larvae survival. Our results showed that in 2020, during the blue whiting-spawning season (March-April), the calm wind situation along with weaker ocean currents above the Porcupine Bank helped to accumulate phytoplankton biomass, thus promoting secondary productivity. The optimal salinity concentration, as well as surface temperature during this time, helped the buoyancy of eggs and larvae to the food-rich surface, thus improving the larval condition and enhanced the survival rate, which in turn resulted in the largest recruitment since 2001.