

MARINE FISHERY



The 2019 IPCC report highlighted that climate change is leading to changes in the distribution of marine species. Taiwan's Fisheries Research Institute (FRI) used long-term historical catch records and sea temperature data to assess changes in fishing areas and habitats. Their findings reveal that rising sea temperatures are significantly impacting marine fisheries, leading to a gradual shift in traditional fishing grounds and altering the migratory patterns of pelagic fish. These changes could potentially disrupt the marine fishing industry.

Chang et al. (2021) analyzed Grey mullet catches from 2014 to 2019 and found that catch volumes in southern Taiwan decreased annually over the five-year period. A significant decrease of approximately 50% to 70% in the Kaohsiung-Pingtung area was observed when comparing the catch volumes of 2014 and 2019.

The Fisheries Research Institute (FRI) has also conducted resource assessments of the *Uroteuthis (Photololigo) edulis* (commonly known as Swordtip squid) since 2009, focusing on catch volume surveys in the northern waters of Taiwan. The traditional fishing season for Swordtip squid is in the waters around Pengjia Islet, where the average sea temperature is 25°C. Using climate projection data under the AR6 emission scenarios SSP1-2.6 and SSP2-4.5 provided by TCCIP, the Institute found that a 1°C increase in sea temperature would result in a 15% decrease in the catch per unit effort of Swordtip squid. Additionally, the analysis of the SSP1-2.6 mitigation scenario shows an increase in habitat suitability in the waters around the Three Northern Islands in Taiwan and near 30°N latitude, as detailed in Figure.

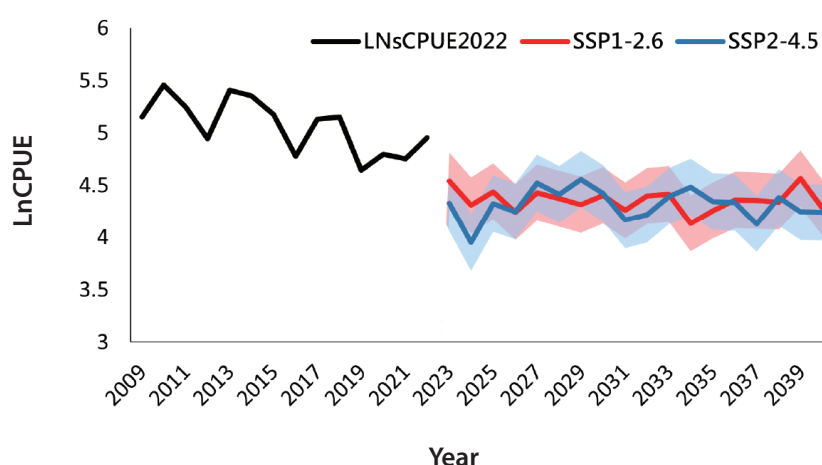


Figure Trends in *U. edulis* catches in 2040 under the SSP1-2.6 and SSP2-4.5 scenarios

