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## Impacts of interannual environmental variation on the shrimp fishery off the Gulf of California

Jose Luis Castro Ortiz & Daniel Lluch Belda

This work presents an exploratory analysis of the potential relationship between offshore shrimp catches and environmental factors at the Gulf of California, using shrimp harvest information from Guaymas, Sonora, and Mazatlán, Sinaloa, México. Multiple correlation analysis was used to examine the relationships between landings time series and environmental variables, including average rainfall, fluvial discharge, the Pacific Decadal Oscillation (PDO) and the El Niño Multivariate (MEI) Indices. Environmental index series were split for January through June (cold season) and July through December (warm season), since shrimp populations show two reproduction peaks throughout the year. These two spawning seasons give rise to two cohorts: the cold-season (April–June) and the warm-season (October–November), the former sustaining the fishery during the open season (September–March) and yielding 90% of total catch between September and October. Our findings indicate that the mean PDO index for the cold season accounted for the highest percentage of catch variation, suggesting that conditions during the cold season (January–June) may determine recruiting in the April–June cohort. This information may be used to derive catch forecasts several months in advance.

Palabras clave: Specialist, interannual variability, Shrimp fishery, Climate

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