

Article title: Herbivorous reef fish interaction with the habitat and physicochemical variables in coral ecosystems in the Mexican Tropical Pacific**Authors names:** Diana Morales-de-Anda, Amílcar Leví Cupul-Magaña*, Consuelo Aguilar-Betancourt, Gaspar González-Sansón, Fabián Alejandro Rodríguez-Zaragoza, Alma Paola Rodríguez-Troncoso

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Table S2: Description of the physicochemical variables used for the multiple factor analysis (MFA) [75,103–106]

| Physicochemical variable | Abbreviation | Ecological relevance | Data details | Data source |
|--|--------------|---|---|-----------------------|
| Surface Temperature | SST | Related corals and algae tolerance and fish composition changes in fish [75,103,106] | SST. Aqua MODIS. NPP. (°C) 0.025 degrees. Pacific Ocean. 14 Day Composite. | NOAA-NMFS SWFSC ERD |
| Degree Heating Week | DHW | Proxy of ENSO. Related to coral mortality, algae overgrowth, and fish composition changes [75,104] | Celsius weeks. NOAA Global Coral Bleaching Monitoring Products. Daily 5km. | NOAA-Coral Reef Watch |
| Multivariate ENSO Index | MEI | Proxy of ENSO phenomena. Related to coral mortality, algae overgrowth and fish, corals, and algae [104] | Bi-monthly Multivariate El Niño/Southern Oscillation (ENSO) index (MEI.v2). Empirical Orthogonal Function (EOF) of five variables (sea level pressure, SST, zonal and meridional components of the surface wind, and outgoing longwave radiation) | NOAA-ESRL PSD |
| Photosynthetically Available Radiation | PAR | Proxy of solar radiation related to the photosynthetic activity of the algae and coral endosymbionts [75,103] | Photosynthetically Available Radiation, R. Frouin (Einstein m-2/day-1). Aqua MODIS. NPPL3SMI. Global, 4km. Science Quality. Monthly. | NASA-GSFC OBPB |
| Diffuse Attenuation Coefficient | Kd490 | Water quality. Proxy of turbidity negatively related to the photosynthetic activity of the algae and coral endosymbionts [75,105] | Diffuse attenuation coefficient at 490 nm, kd2 algorithm (m-1). Science Quality, Global, Level 3. Monthly. | NOAA-NESDIS STAR |
| Chlorophyll <i>a</i> | Chl <i>a</i> | Water quality. Proxy of nutrients that can increase algae growth rates and food availability for fish [75] | Chlorophyll Concentration, Default Algorithm (mg m ⁻³). Science Quality. Global. Level 3. Monthly. | NOAA-NESDIS STAR |