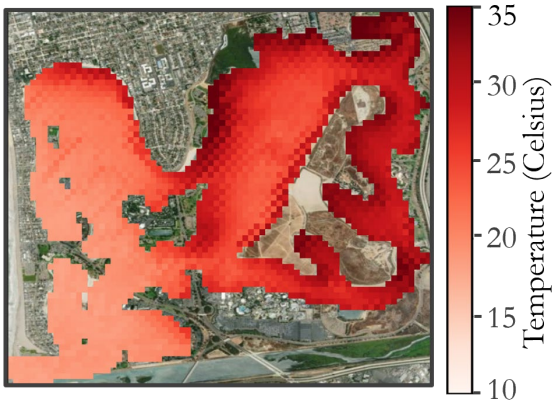
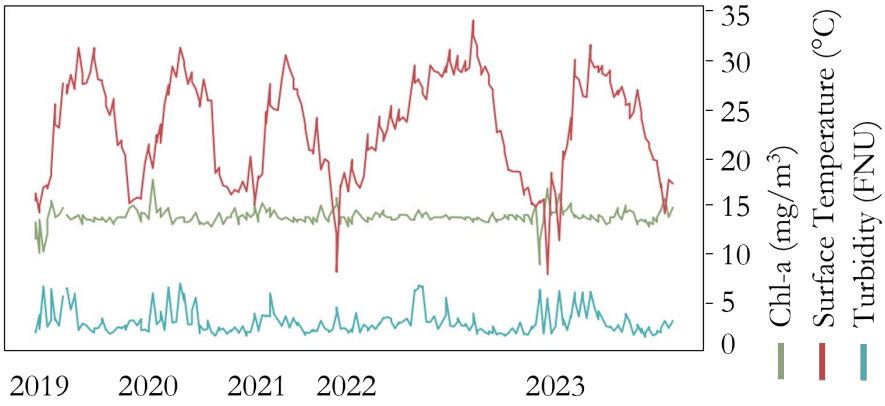
National Aeronautics and Space Administration

DEVELOP

Mission Bay Temperature: ECOSTRESS



Newport Bay Water Quality Parameters Time Series



Southern California Water Resources

Using NASA Earth Observations to Monitor Seagrass Extent and Water Quality Parameters in Southern California

Eelgrass is a type of submerged aquatic vegetation (SAV) found in shallow water environments that provides important ecosystem services such as carbon sequestration, shoreline stabilization, water column filtering, and fish habitats. Newport Bay and Mission Bay are estuaries located in Southern California that contain *Zostera Marina* (eelgrass,) a species of seagrass. The team investigated water quality parameters in Newport and Mission Bay from 2019-2023 with the goal of assessing eelgrass health. The team used Landsat 8 OLI/TIRS Surface Reflectance Tier 1, Landsat 9 OLI/TIRS Surface Reflectance Tier 1, Sentinel 2 MSI, and ECOSTRESS land surface temperature and cloud mask to examine chlorophyll-a, turbidity, and sea surface temperature. The team found that all parameters show cyclical seasonal patterns, with turbidity and temperature peaking in the summer. These results will be input into the end users (SCCWRP's) model to help them better predict eelgrass health and extent.

Project end user: Southern California Coastal Water Research Project (SCCWRP)
Collaborators: NOAA National Marine Fisheries Service (NMFS) West Coast Region, State of California San Diego Regional Water Quality Control Board

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