Pelagic Habitat Analysis Module (PHAM) for Fisheries Decision Support

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Pelagic Habitat Analysis Module (PHAM)

- Fisheries Catch/Survey Data
- Tagging Data
- Satellite Imagery
- Circulation Model

EASy GIS

PHAM Tools & Statistics

- Dynamic Maps of Habitat
- Data & Results of Statistical Analysis
PHAM screen shots. The purse seine fishing ground (indicated by +) matches well surface waters where chlorophyll concentration exceeds 1 mg/m³ (upper panel) & overlies the hypoxic layer (lower panel).

Purse seine recording stations superimposed upon a MODIS satellite image of surface chlorophyll concentration.

Purse seine recording stations superimposed upon a climatological image of annual average oxygen concentration at 150 m depth.
We have developed an algorithm to predict the recruitment of yellowfin tuna based upon EOF extraction of patterns from time series of satellite imagery.

EOF 1st Seasonal spatial component & temporal expansion coefficient (right hand corner)

EOF 1st nonseasonal spatial component & temporal expansion coefficient
Correlation between temporal expansion coefficients and yellowfin recruitment lead to hypothesis of temporal evolution.
El Nino 11/1/97-5/1/98 SKJ PS Catch, ECCO-2 Drifts, AVISO SSH (5/1/98)