SEA SURFACE TEMPERATURE FRONTS

Application: Analysis of fisheries migration routes, assessment of local fishery recruitment, sea surface temperature variability.
Users: Operators and decision makers in the fisheries sector.
Availability: SST Front data is available on a daily, 8-day or monthly basis at a 2km resolution.

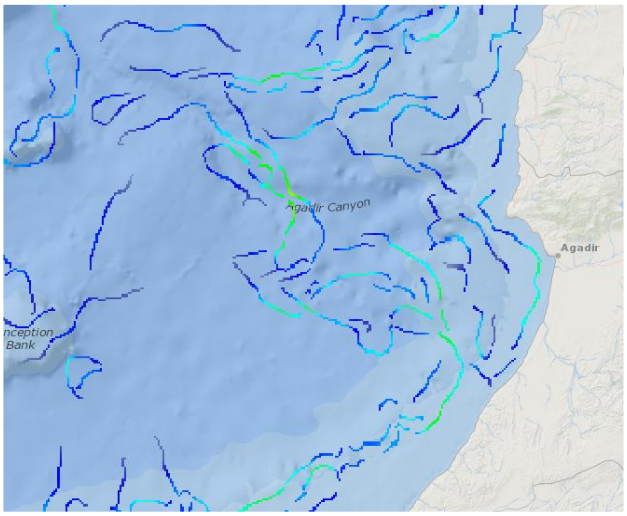

FIGURE 1: SAFI-SST FRONTS (COLOURS INDICATE FRONT STRENGTH IN °C/KM) PICTURED: MONTHLY SST FRONTS NEAR AGADIR, MOROCCO, SEPTEMBER 2015

FIGURE 2: RESULTS OF 2016 SAFI RESEARCH SHOW THAT EXCEPTIONAL TUNA CATCH RATES ARE RELATED TO A WELL-ESTABLISHED 18° ISOTHERM IN FISHING REGIONS, AS TUNA MIGRATION IS CONSTRAINED BY THE 19° ISOTHERM

Source data: SST front data is generated from ODYSSEA Sea Surface Temperature Products (Piolle *et al.* 2010).

Methodology: The cloud free characteristics of the SST ODYSSEA allows the generation of a consistent SST front product with a good spatial resolution, appropriate for the observation of spatial gradients in surface temperature for transient or quasi permanent Large ecosystems (such as upwelling). These fronts occur where colder, nutrient rich water mixes with warmer waters – fuelling increased plant growth at the first stage of the ocean food chain.

Knowledge of these front dynamics allows us to identify fishery migration routes and recruitment trends, allowing for more effective and efficient fishing ventures.

References: Piolle J. F., Autret E., Arino O., Robinson I.S, Le Borgne P., (2010), Medspiration, toward the sustained delivery of satellite SST products and services over regional seas, ESA LPS Bergen.

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