



Effects of the Falkland current on fishing for squid *illex argentinus* according satellite monitoring of the sea surface temperature.

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Satellite monitoring of sea surface temperature (SST) offers new opportunities for analysis of hydrological conditions in fishing areas. Since 1987, the Russian Federal Research Institute of Fisheries and Oceanography (VNIRO) has developed an SST database for the Southwest Atlantic (SWA) which includes weekly SST maps. The SST maps are based on the complex analysis of IR-data of satellites (GOES-E and Meteosat-7) and real time data from vessels and hydrological buoys. A set of SST maps: mean monthly SST, SST tendency, SST difference, SST anomalies and SST gradients are created for the purposes of analysis of synoptic, seasonal and interannual variability of SST. Such hydrological observation allows users to study environmental impact on formation of biological productivity in the SWA particularly effect of oceanographic factors on the fishery. Analysing a current hydrological situation in fishing areas of the SWA specialists calculated the SST monthly anomalies using standard climatic data determined for early 1990s. It was noticed that during 1989-1999 negative anomalies of SST were regular in areas affected by the Falkland current (FC) and within FC waters. It is found that hydrological situation in the SWA worsened in 1992-94 and the intensity of the FC was increased during last years. Complex analysis of fishery data and hydrological factors suggests a close correlation between oceanographic conditions and distribution and total catches of squid *illex argentinus* on the Patagonia shelf and in the SWA fishing area (46°-47°S, 60°-61°W). Thus, analysis of deviations from the mean long-term SST in January shows that negative deviations of

the monthly SST in the SWA fishing area, 46° - 47° S, 60° - 61° W, lead to 1) reduction of the squid catches beyond Argentine EEZ; and 2) accumulation of main stocks of squid *Illex argentinus* within the EEZ. If in January the FC axis keeps close the boundary of Argentine EEZ the main stocks of squid migrate within the EEZ and, as a result, catches grow there and fall down beyond the EEZ. The complex analysis also shows a correlation between the SST gradients in January and daily/ monthly catches of squid beyond the EEZ.