

Session 4

Intense warming causes a spatial shift of small pelagic fish: early warning for food security in North-West Africa

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Abstract

Along the coast of North-West Africa, fish supply is important at both socio-economic and cultural levels. Reports by fishermen emphasise changes in the distribution of fish species important for food security. Northward shifts in the distribution of sardinella and other species have been attributed to a warming trend and the redistribution of upwelling intensity and productivity. As a result, the abundance of sardinella along the coast has increased in the subtropics and fallen in the intertropical region. Independent observational time series confirm a robust northward shift in *Sardinella aurita* since 1995, which we attribute to the intense warming of this region, where the greatest increase in sea surface temperature of all tropical regions is found. The spatial shifts in biomass of several hundred kilometres observed during the last 20 years are of the same order of magnitude as those recorded for surface isotherms in the sub-regional pelagic habitat of sardinella. Such changes are an important policy consideration for food security management in several West African countries.



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