

UPWELLING FILAMENTS IN THE NORTHWEST AFRICAN UPWELLING AREA

Invitation

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Upwelling filaments are known to be characteristic oceanic features in all major coastal upwelling systems. As coastal water usually has physical, chemical and biological properties different from offshore waters the upwelling filaments become important as transport mechanisms of material, heat and momentum from the coastal zone to the open ocean.

Upwelling filaments are present in the entire Northwest African upwelling system, with one of the most characteristic being located at Cape Ghir in the CANIGO area of investigation. Typical physical and biological structures of the filament will be presented and discussed using satellite and in-situ observations. The seasonality of the Cape Ghir filament will be documented from a time series of satellite images of sea surface temperature (SST). Finally the implications for offshore transport from the filaments will be discussed using the observational material and modelling.

UPWELLING, FILAMENTS, EDDIES AND WAKES IN THE CANARIES REGION

Oral

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During June 1998, the area between Gran Canaria and the NW African coast was surveyed from the Garcia del Cid in support of the CANIGO project aims. Although severe weather conditions limited the sampling, the cruise defined velocity and hydrographic structure associated with the filament and its interaction with the islands. South of Gran Canaria a developing and long-lived anticyclonic eddy, stronger and larger than any previously reported for Gran Canaria, was in contact with the offshore extension of the filament. The boundary between the island lee, sheltered from the wind, and the filament, exposed to the wind, was extremely pronounced and showed strong signs of convergence and sinking. The anticyclone and/or lee boundary may act both to entrain waters horizontally from the filament and to remove them from the upper layers. The western side of the lee showed indications of genesis of a cyclonic eddy, such as been observed frequently in the area. These results will be updated with a report from the August 1999 Hesperides cruise.