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A Subsurface Ribbon of Cool Water over the Continental Shelf off Oregon

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ABSTRACT

Observations of the hydrographic regime over the continental shelf off Oregon from the R/V *Yaquina* during the summer of 1972 showed the presence of an alongshore, subsurface ribbon of relatively cool water. Its properties and its evolution during the 1972 season are described. Examination of earlier observations showed that evidence of the ribbon was found during the upwelling season in almost every year between 1961 and 1971. It is usually observed when the upwelling index (the monthly mean Ekman transport directed offshore) is high. The ribbon can be accounted for by southward advection of sub-arctic water due to the coastal jet associated with upwelling. A warm temperature anomaly, occurring at somewhat higher salinity, is frequently observed inshore of the ribbon.

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