



Migration of surface drifters in different sectors of a filament in the Benguela upwelling region

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The cold upwelling front off Namibia's coast in the area of Luderitz has a highly irregular structure due to eddies and filaments, finger-like structures of cold upwelling water pushing west into the warm surface waters offshore. We explore mesoscale and submesoscale structures within a filament during a cruise in November/December 2016 by the release of 37 surface drifters. The drifters are released in groups of triplets, with an initial separation of 100 - 200 m and a distance of 5 km between the triplets. We find that, due to the underlying rich mesoscale system, the dispersion statistics are very different depending on the location of release. While the drifters of the group released at the southern border of the filament separate slower, the drifters in the group released closer to the upwelling system at the northern border of the filament separate faster from each other and follow distinct paths within the complex surface currents. We contrast our findings with dispersion statistic analysis using a high resolution model of the region and discuss prospects and challenges.