

## 2010 Ocean Sciences Meeting

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### Challenges in Tracking Dye in the Columbia River Plume

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To better understand how the Columbia River outflow mixes with the coastal ocean, a passive dye tracer was released about 20 km west of the river mouth in spring 2009. The release occurred about an hour before a strong tidal front passed by. The fluorescent fluorescein dye and hydrographic field was mapped from the the R/V Point Sur by towing an undulating vehicle (Minibat). Shipboard measurements of water velocity were also made from a boom-mounted ADCP.

The objective of the analysis is to formulate a coherent scenario of the dye dispersion and mixing that is consistent with the observations and numerical models. The dye patch is under-sampled given the rapid evolution of the patch and the relatively slow speed of the ship. However, some interesting results are presented regarding the horizontal and vertical mixing of the dye. Suggestions for further investigations are given.

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