J. Harvey, 11 December 2012
jharvey@mbari.org

2012 Dorado AUV and R/V Fulmar water sample biology synopsis

Figure 1. Sandwich hybridization assay results (SHA). (A) Water sample locations and (B) SHA molecular results for 30 May – 7 June 2012 Dorado AUV Gulper samples. Water samples were collected from the core water of upwelling filaments, at upwelling fronts and inshore of fronts within the northern Monterey bay upwelling shadow, via the 'Three Waters' adaptive sampling method. Biological (molecular) signals predominated at the front and inshore of the front but were scant to absent in upwelling filament water samples.

Figure 2. SHA results continued. (A) Water sample locations and (B) Sandwich hybridization assay molecular results for 30 May – 7 June 2012 R/V Fulmar Niskin samples. Water samples were collected offshore of upwelling fronts, at upwelling fronts, and inshore of fronts (nearshore). Biological signals were similarly variable among sample types.

Figure 3. Select sensor data corresponding to AUV Gulper samples. (A) Dorado and Chavez lab chlorophyll, (B) phaeopigment, and (C) Dorado optical backscatter (two wavelengths), all reveal an obvious difference between upwelling water and the other two water types. Differences between upwelling front and upwelling shadow samples are less obvious and their comparison requires further analysis.

Fig 1. 2012 Dorado AUV (A) Gulper sample locations and (B) sandwich hybridization assay (SHA) results.

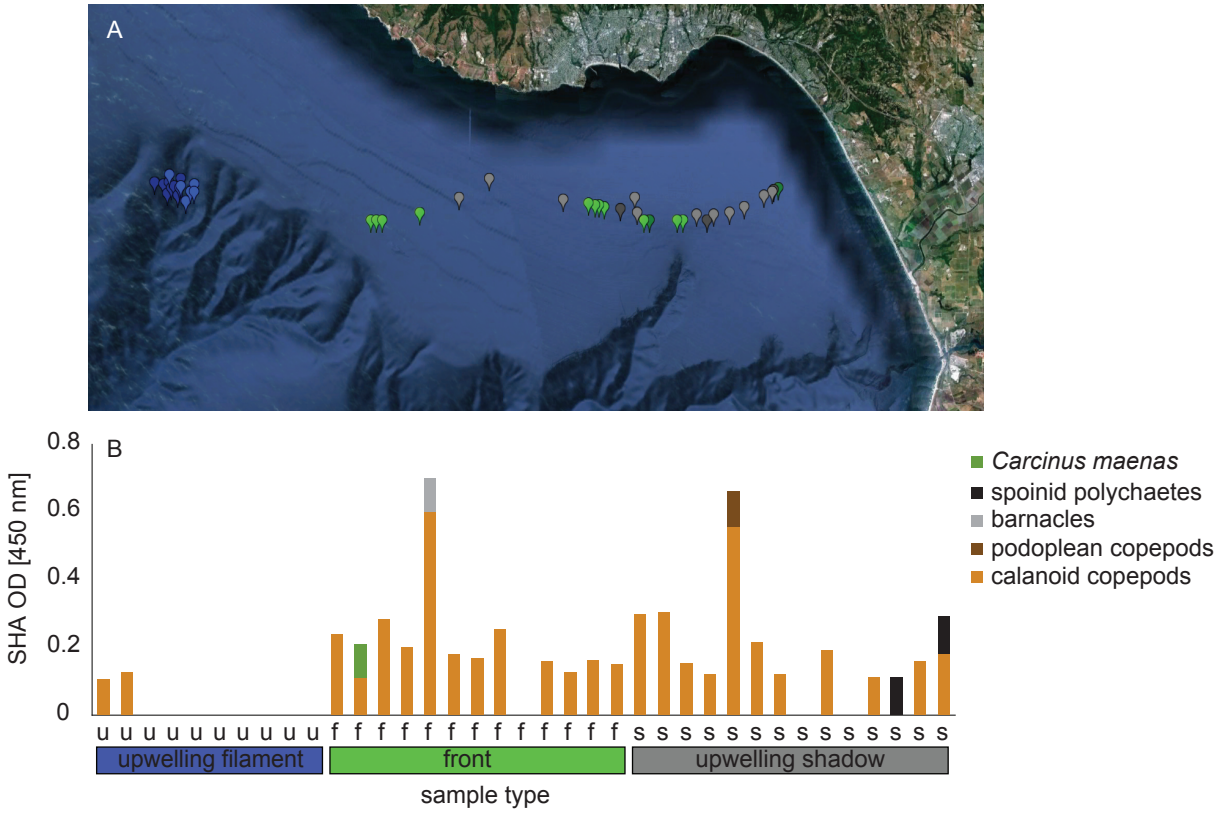

Fig 2. R/V Fulmar (A) Niskin sample locations and (B) sandwich hybridization assay (SHA) results.

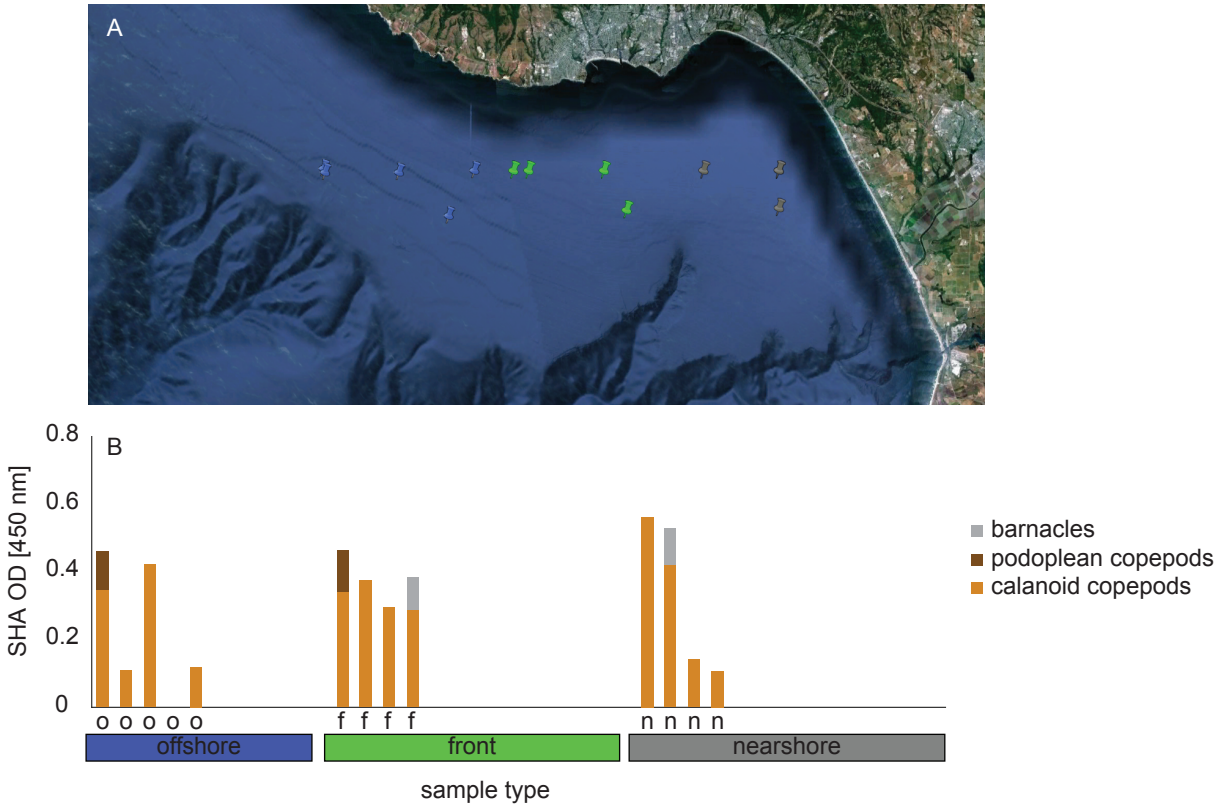

Fig 3. Spring 2012 Dorado AUV and R/V Fulmar sensor data. Sample types: (u) Upwelling, (f) Front, and (s) upwelling shadow, are indicated.