

## ***Interactive comment on “Contextualizing time-series data: Quantification of short-term regional variability in the San Pedro Channel using high-resolution in situ glider data” by Elizabeth N. Teel et al.***

### **Anonymous Referee #2**

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This paper uses high-frequency spatial and temporal glider data to quantify variability at the coastal San Pedro Ocean Time-series (SPOT) site in the San Pedro Channel (SPC) and provide insight into the underlying oceanographic dynamics for the site.

The glider data (a total of 1606 profiles) collected from March through July of 2013 and 2014 are used. This is a very rich data set and a detailed analysis is well justified for a publication. However, the manuscript in its current form is very difficult to read and follow. PCA is used to differentiate different profile types. It is confusing how the 54 end-member profiles are selected to define each of four dominant profile types, and

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then the remaining 1552 profiles are then projected onto the PC1 and PC2 coordinates. Maybe a more detailed description of the methodology is needed in the supplemental information.

Time series are mentioned as the motivation of this paper, although the SPOT data are not used in the analysis. Both weekly and monthly time scales are mentioned in the text, what is the time interval for the SPOT measurements? It is not true "most time-series are sampled ... approximately once per month. Many time series use mooring platforms collecting data every few minutes.

p2, end of the 1st paragraph, "...at an individual site relative to a larger region may provide a path for leveraging numerous local time series sites in order to gain an understanding of larger scale oceanographic dynamics." What is the spatial scale for this "larger" region/scale? Maybe the SPOT time series can be used to quantify this spatial scale.

p2, 2nd paragraph, "cloud contamination" is not mentioned as the primary reason to have limited coverage.

"coastal and offshore processes", define "coastal" and "offshore"

It seems arbitrary to have the four dominant water column profile types: early upwelling, surface phytoplankton bloom, subsurface chlorophyll maximum, and offshore influence. Again define "offshore" here. Should the wind forcing be used?

p5, satellite data are mentioned, but should be used more to study the surface and subsurface linkage

p12, 5. Conclusion, end of the 1st paragraph, "...insensitive to coastal anthropogenic change...well positioned to identify a regional response to climate change." how do you derive such a conclusion?

Table 1, define "SPOT specific profiles", "SPOT samples", what is CI?

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Figure 1, I understand the color represents bathymetry, why don't you state this in the caption?

Figure 2, what is the arrows mean below the figure, PC1, PC2? what does the "n=" mean?

Figure 3, is "box plot" a more standard term than "whisker plot", see [https://en.wikipedia.org/wiki/Box\\_plot](https://en.wikipedia.org/wiki/Box_plot); define "bin"

Supplemental Figure S2, define "ideal profiles"

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