

# 2<sup>nd</sup> Revision of Paper based on Referees' Comments

Note: Revisions are marked in red in the revised manuscript.

## First referee (Piers Chapman)

Based on Piers Chapman's comments, the following revisions have been made to the paper.

- 1) The event analysis (Section 3.3) has been rewritten to some extent based on updated Tables 1 and 2 that now show number of valid and invalid events (instead of total number of events and missing data in percentage). The author hopes that the text is now easier to follow.
- 2) It is made clear in the conclusions that this paper is solely based on satellite data and that additional field data are required for further studies.
- 3) The conclusion section states that there is no indication that river plumes contribute to primary production on the adjacent shelf, probably because of high concentrations of CDOM and suspended sediment and the associated reduced light levels.
- 4) The conclusion section also mentions the regular development of austral spring blooms in the study region without further speculation as to which processes initiate them.
- 5) Justification for the comparison of "relative production" between the Bonney Coast and the west Tasmanian shelf is added to the text. The revised paragraph reads:

This comparison is justifiable given a) the relatively close proximity of the upwelling centres (which implies that the source properties of upwelled water are similar), b) similar SST values during upwelling events (indicating similar upwelling intensities), and c) similar values of fluorescence line height during upwelling events (indicating a similar phytoplankton growth rate on the timescale of upwelling events).

## Second referee (anonymous)

First, I'd like to thank the referee for the comments. The referee's main concerns are missing details on the data & methods used for this investigation with reference to the unsuitability of standard ocean colour data in many coastal applications. The referee also asks for SSH/geostrophic current plots and a reference for Figure 2.

Author's reply:

Apparently, this referee refers to the original submission and not to the revised version which I uploaded on 26 Sept 2014 (for instance, the referee refers to Fig. 15, noting that the revised paper only has 12 figures in total).

The revised paper already addresses some of the referee's key concerns via the use of fluorescence line height (FLH) data and calibration for the Bonney upwelling region.

Nevertheless, the author took the opportunity to add more background on the FLH method in the methodology section (which added 7 more references to the text) and also to describe how satellite pixel arrays were converted to averaged data used in the paper's event analysis.

Given the unreliability of SSH data in coastal regions, the author decides not to use SSH/geostrophic current plots. A justification is included in the conclusion section.

I added a Web reference for Figure 2 (<http://www.bom.gov.au/cgi-bin/charts/>).