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Interactive comment on “The large variation in organic carbon consumption in spring in the East China Sea” by C.-C. Chen et al.

C.-C. Chen et al.

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Please find our response to comments of both Reviewers C6670 and C6674 as a pdf file from "Supplement". In addition, the figures in the revision were also included for your reference.

Please also note the supplement to this comment:

<http://www.biogeosciences-discuss.net/9/C8288/2013/bgd-9-C8288-2013-supplement.pdf>

Interactive comment on Biogeosciences Discuss., 9, 16533, 2012.

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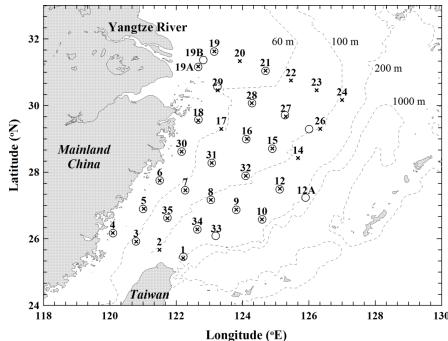
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Fig. 1. Map of stations in the spring of 2009 (x) and 2010 (○) in the East China Sea (ECS) with the station number above the mark. Bottom depth contours (dashed lines; 60, 100, 200 and 1000 m) are also shown; this is also the case in Figs. 2, 3, and 7.

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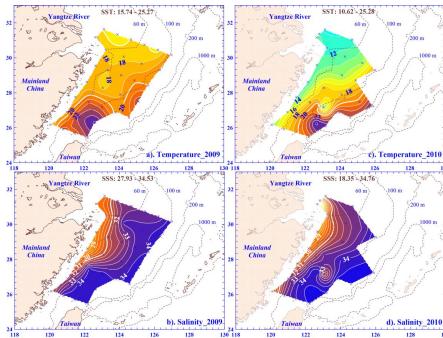
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Fig. 2. Contour plots of surface water temperature (SST) and salinity (SSS) of the ECS in 2009 (a, b) and 2010 (c, d), with contour lines of $SST = 20\text{ }^{\circ}\text{C}$ and $SSS = 31$ were bolded for reference. Contour intervals of temperature and salinity are $1\text{ }^{\circ}\text{C}$ and 0.5, respectively.

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Fig. 2.

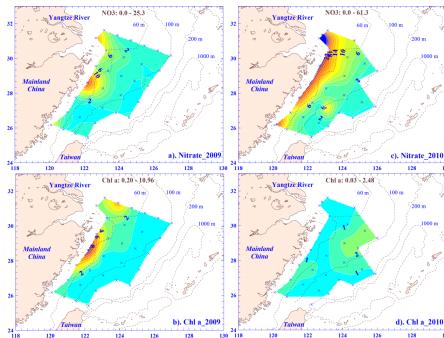
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Fig. 3. Contour plots of nitrate and chlorophyll a (Chl a) in the surface waters of the ECS in 2009 (a, b) and 2010 (c, d). The contour intervals of nitrate and Chl a are $2 \mu\text{M}$ and 1 mg Chl m^{-3} , respectively.

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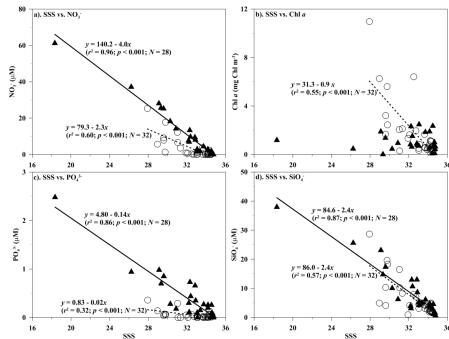


Fig. 4. Relationships between salinity (SSS) vs. a) nitrate (NO_3^-), b)

(Chl a), c) phosphate (PO_4^{3-}), and d) silicate (SiO_4^{4-}) of the surface waters in the spring of 2009 (○; dashed lines) and 2010 (▲; solid lines) of the ECS.

Both p and r^2 values of linear regression are also shown if statistical

significance was evidenced.

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Fig. 4.

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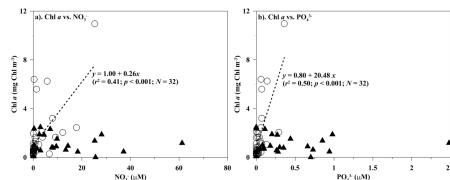


Fig. 5. Relationships between chlorophyll *a* (Chl *a*) vs. a) nitrate (NO_3^-) and b)

phosphate (PO_4^{3-}) of the surface waters in the spring of 2009 (○; dashed lines)

and 2010 (▲) of the ECS. Both p and r^2 values of linear regression are also

shown if statistical significance was evidenced.

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Fig. 5.

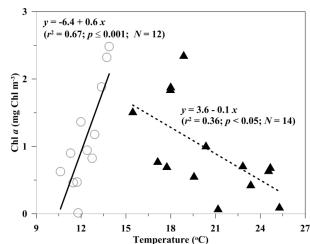
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Fig. 6. Relationship between Chl *a* and temperature in the surface waters in the spring

of 2010. Linear regressions between Chl *a* vs. temperature < 15 °C (○; solid line) or temperature ≥ 15 °C (▲; dashed line) with r^2 and p are also shown.

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Fig. 6.

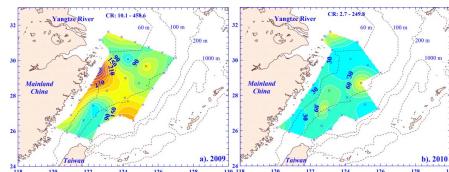


Fig. 7. Contour plots of planktonic community respiration (CR) in the surface waters

of the ECS in (a) 2009 and (b) 2010, with a contour interval of 30 mg C m^{-3}

d^{-1} .

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Fig. 7.

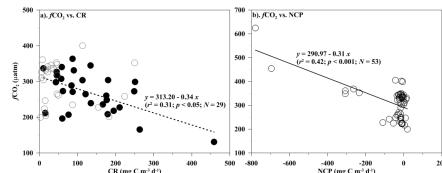


Fig. 8. Relationships between fugacity of CO_2 ($f\text{CO}_2$) vs. a) planktonic community

respiration (CR) in the surface waters and b) net community production (NCP

= PP–CR) in the spring of 2009 (●; dashed line) and 2010 (○; solid line).

Primary production was used the measured values where incubation

performed. Both p and r^2 values of linear regression are also shown if

statistical significance was evident.

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Fig. 8.