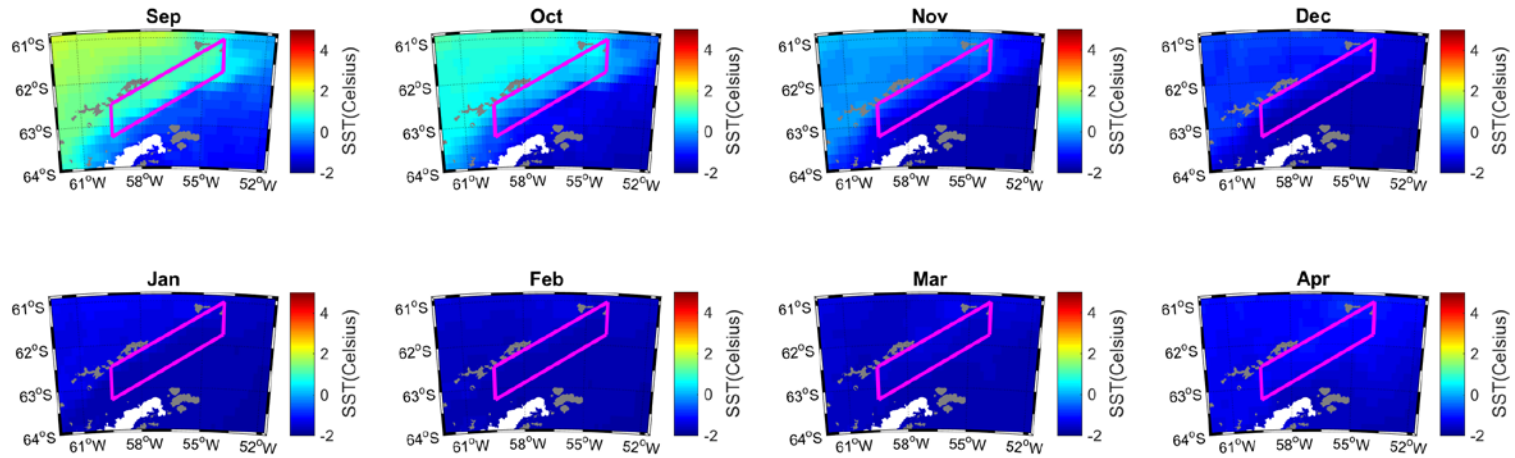
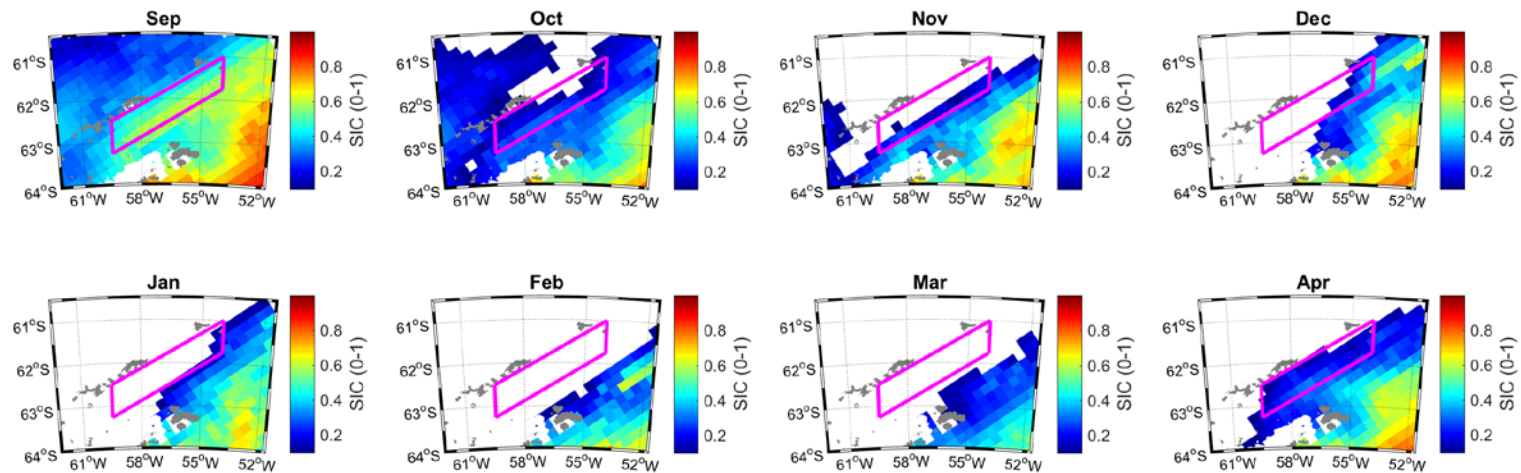


Supplementary Fig. 2. 2002 – 2014 mean monthly distribution of oceanic and atmospheric variables (SST, SIC, PAR, wind speed and cloud cover) in the Bransfield Strait (red square).

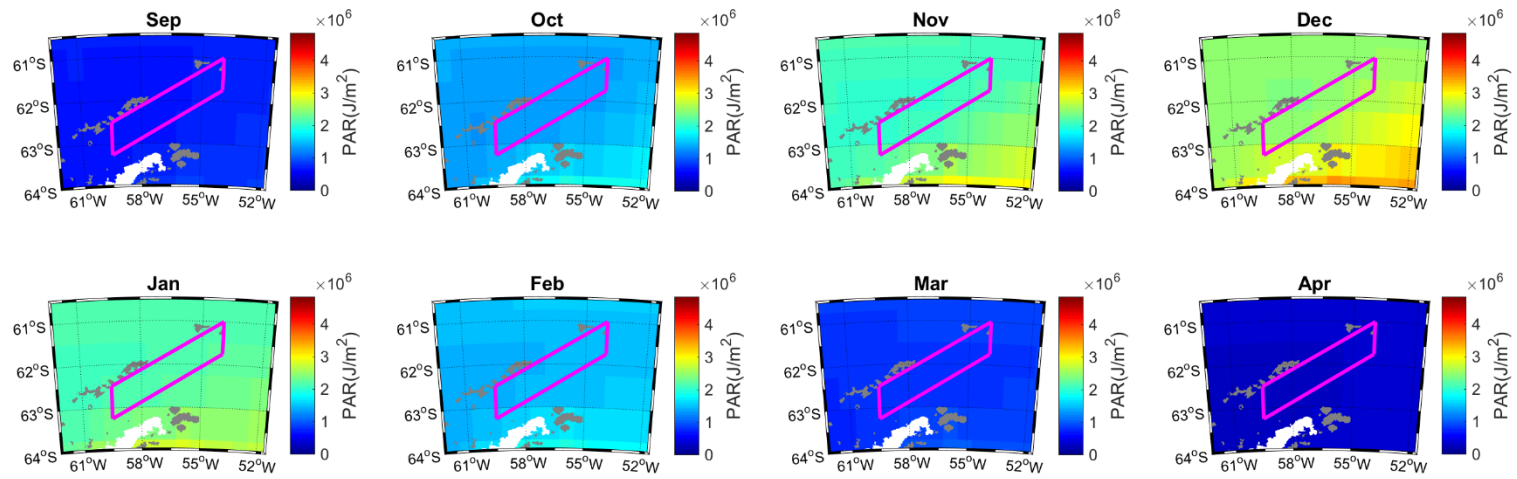
(a) Mean SST



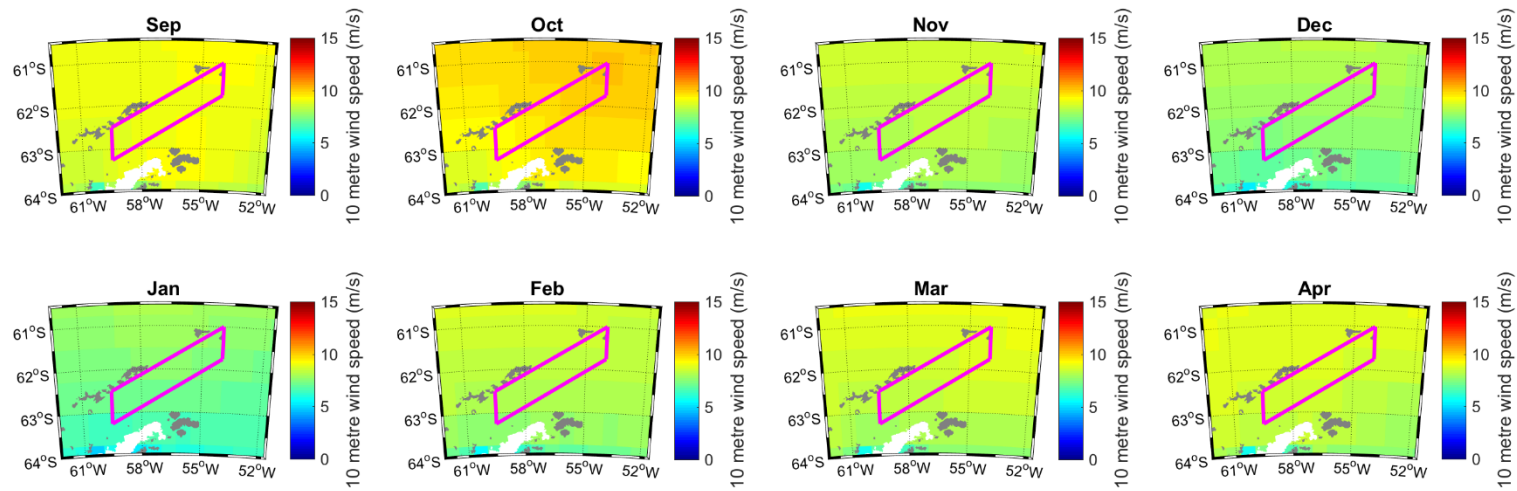
(b) Mean SIC



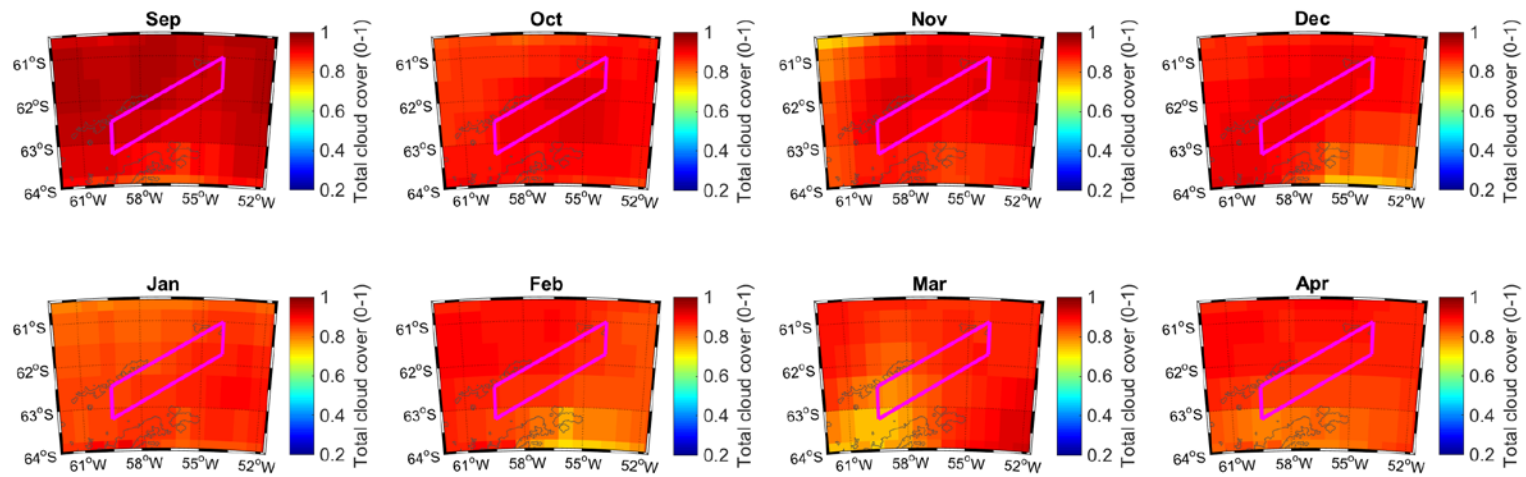
(c) Mean PAR



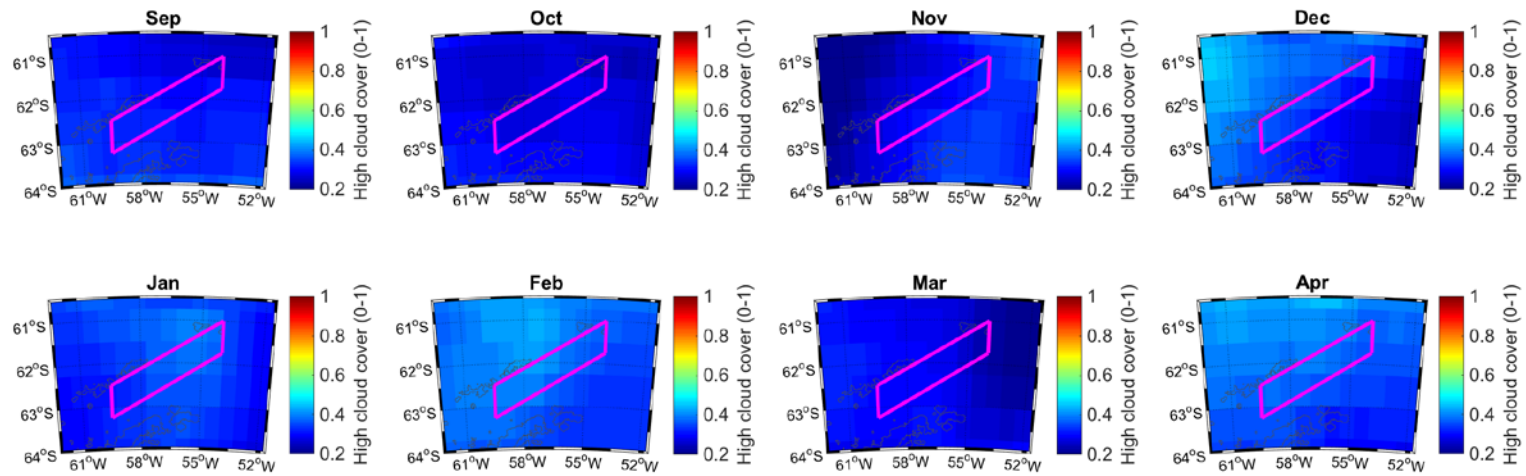
(d) Mean wind speed



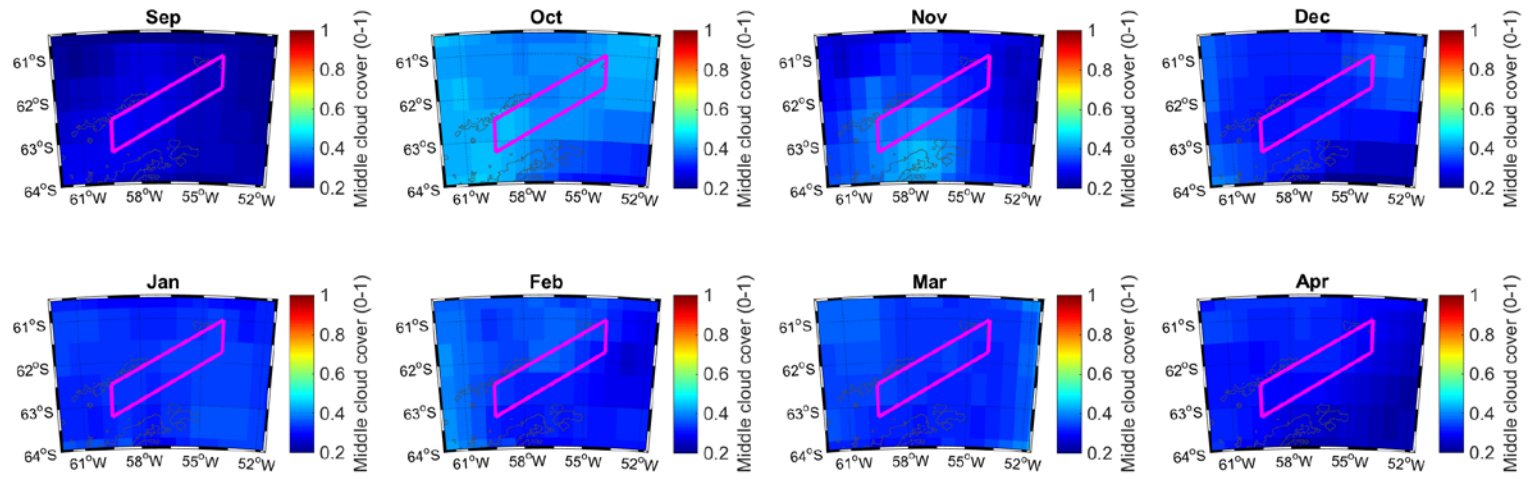
(e) Mean total cloud cover



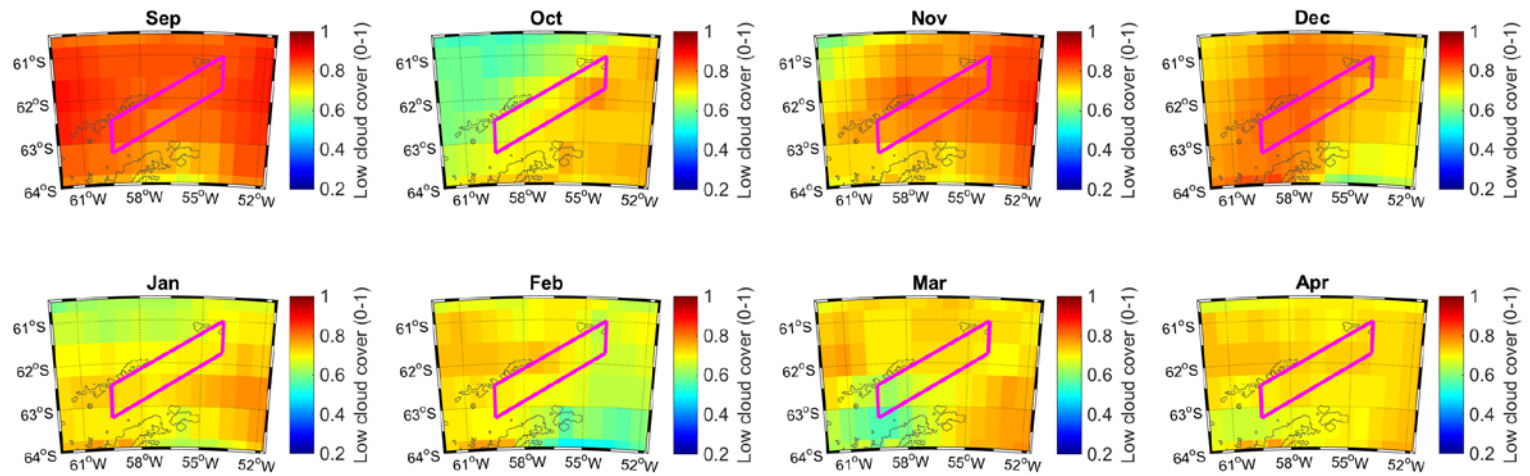
(f) Mean High cloud cover



(g) Mean middle cloud cover

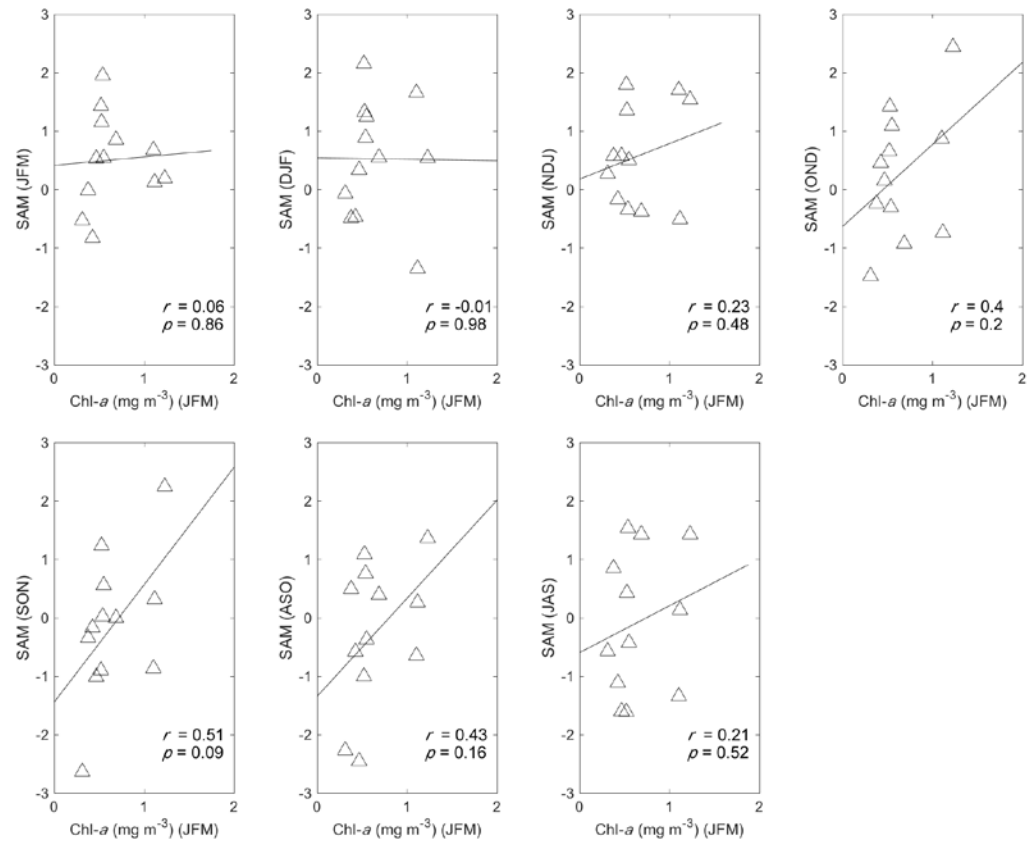


(h) Mean Low cloud cover

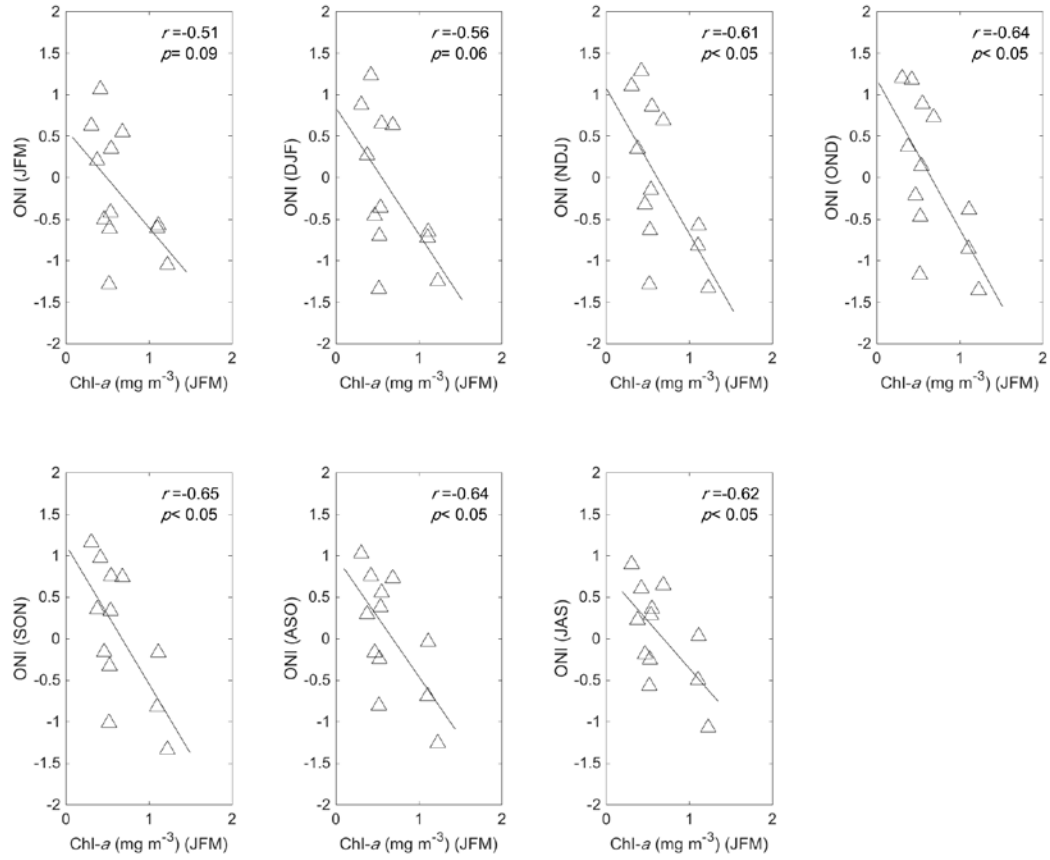


Supplementary Fig. 3. Relationships between JFM mean Chl-*a* and 0 – 6 months (for SAM and ONI) or 0 – 4 months (for SIC, SST, PAR, wind speed, and cloud cover) lagged environment variables in Bransfield Strait.

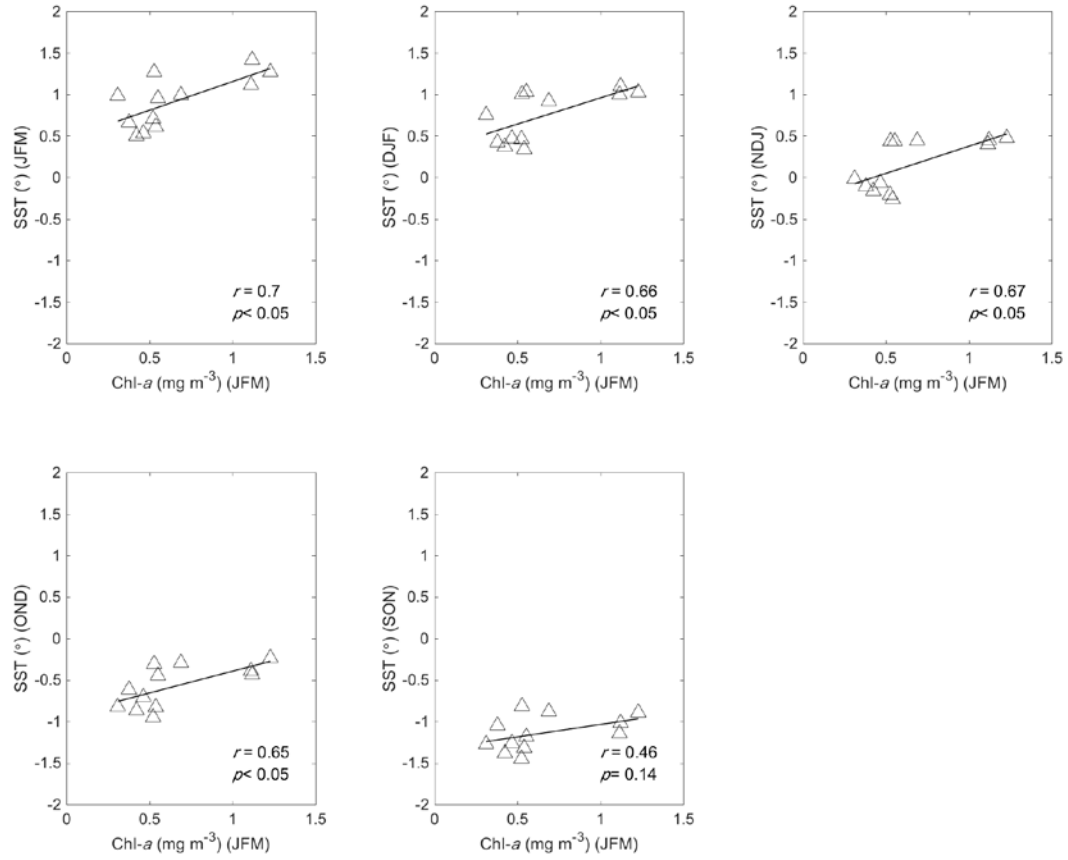
(a) Chl-*a* vs. SAM (0 – 6 months lag)



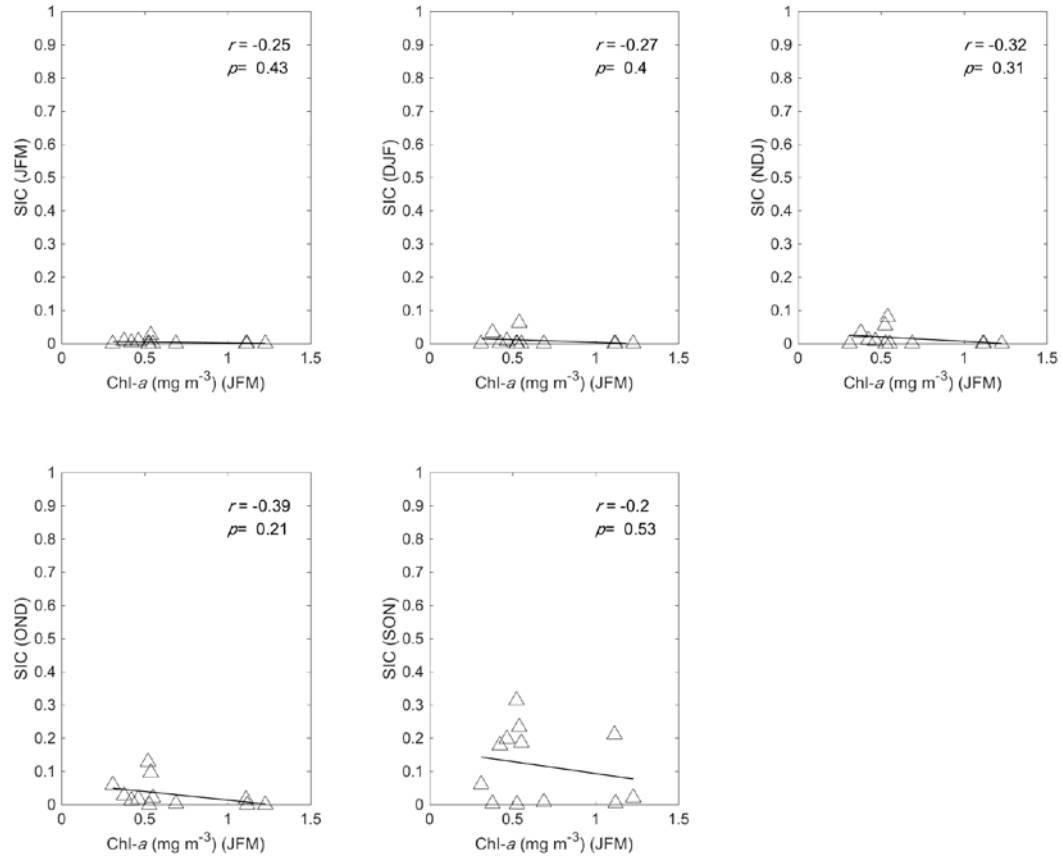
(b) Chl-*a* vs. ONI (0 – 6 months lag)



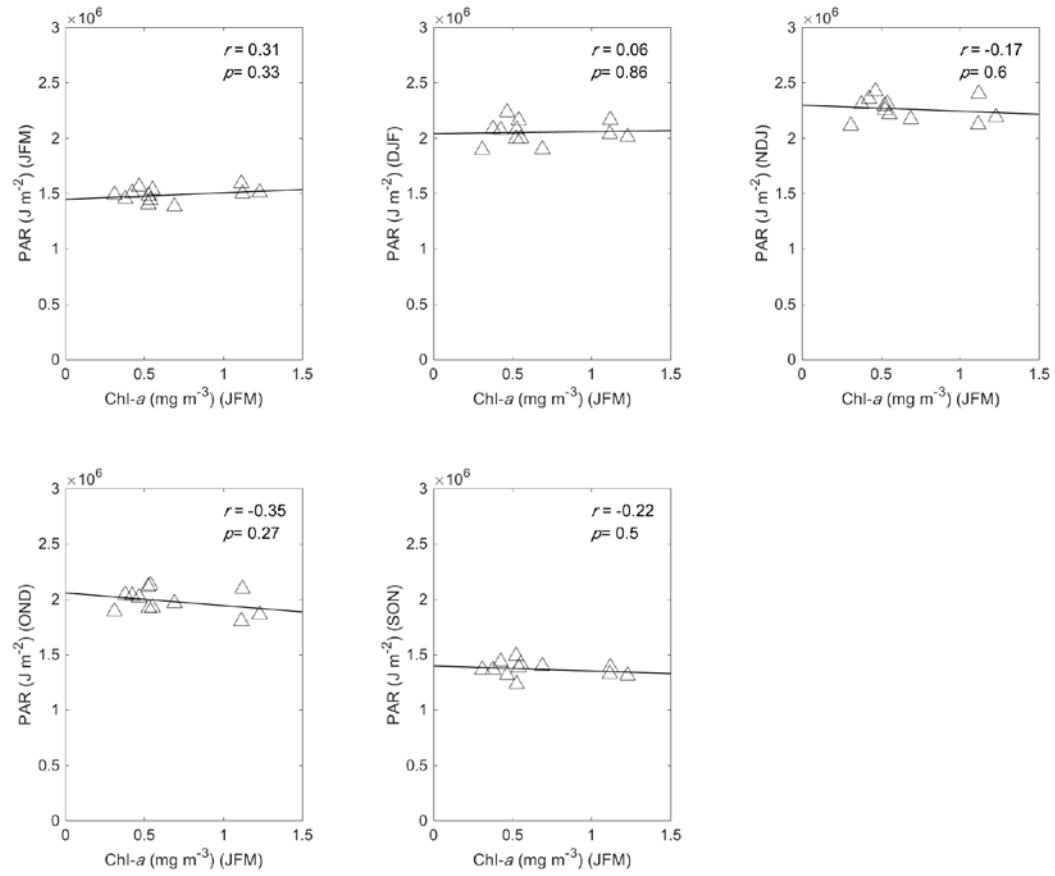
(c) Chl-*a* vs. SST (0 – 4 months lag)



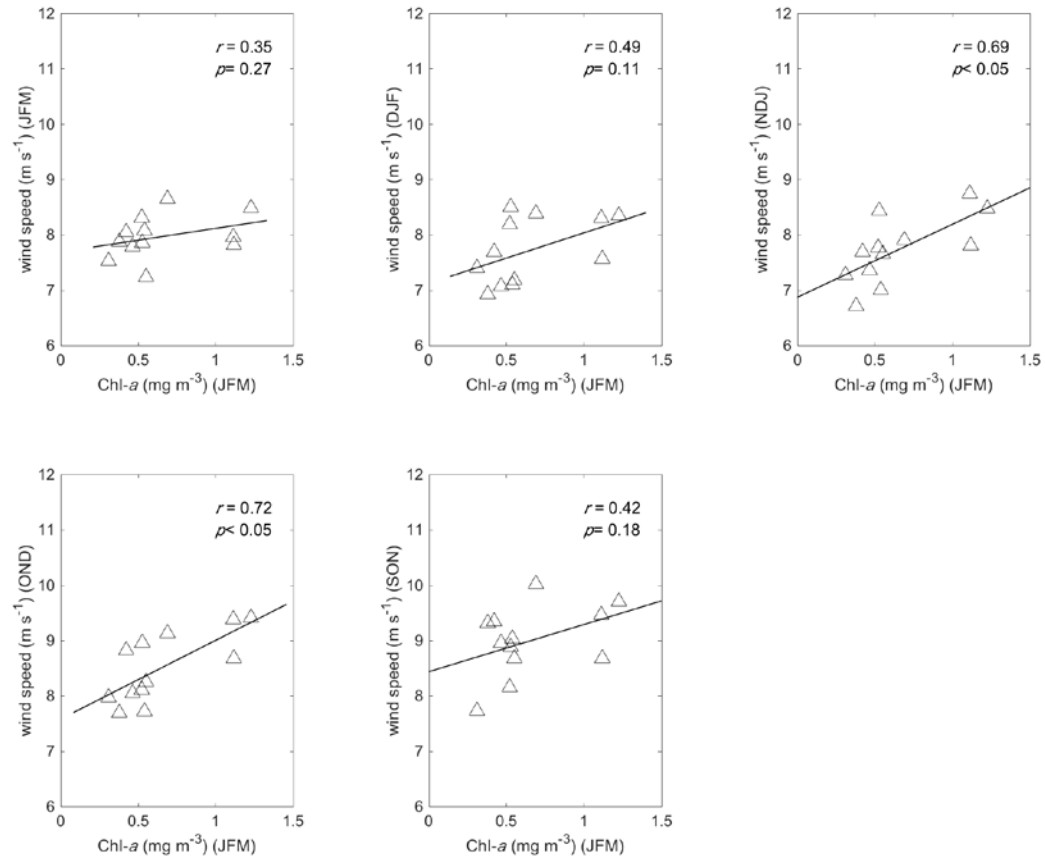
(d) Chl-*a* vs. SIC (0 – 4 months lag)



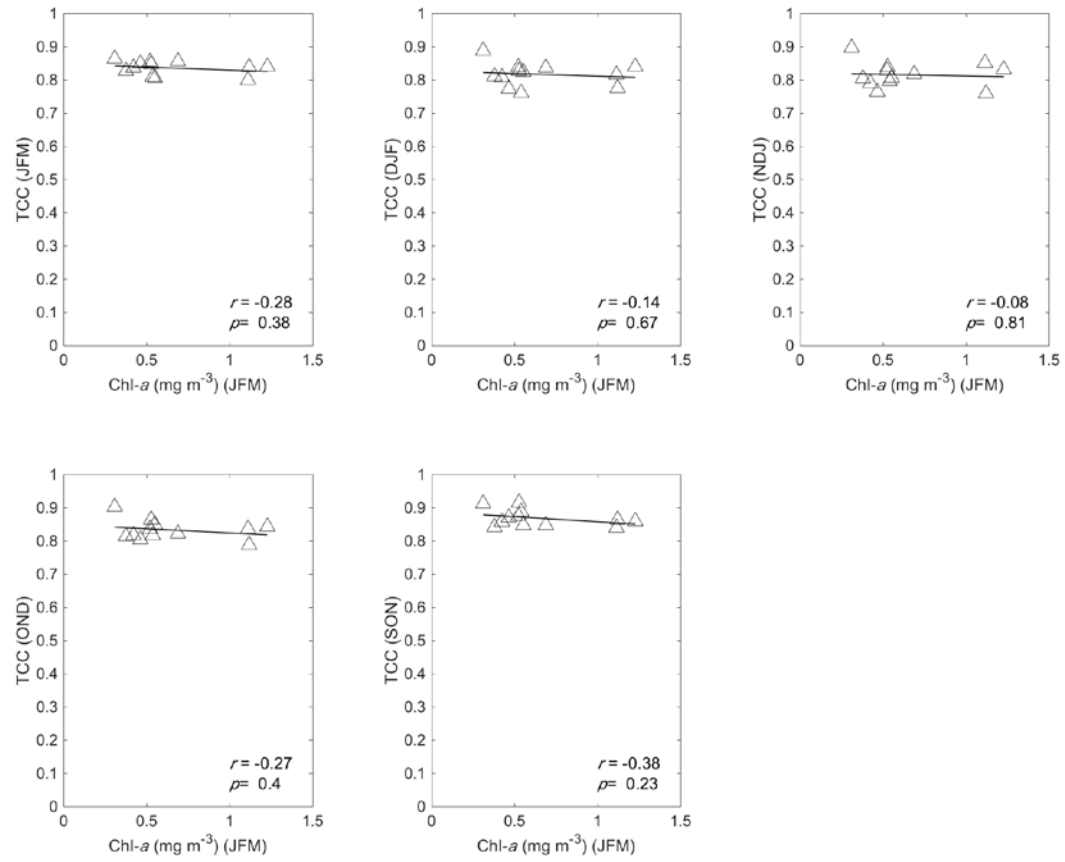
(e) Chl-*a* vs. PAR (0 – 4 months lag)



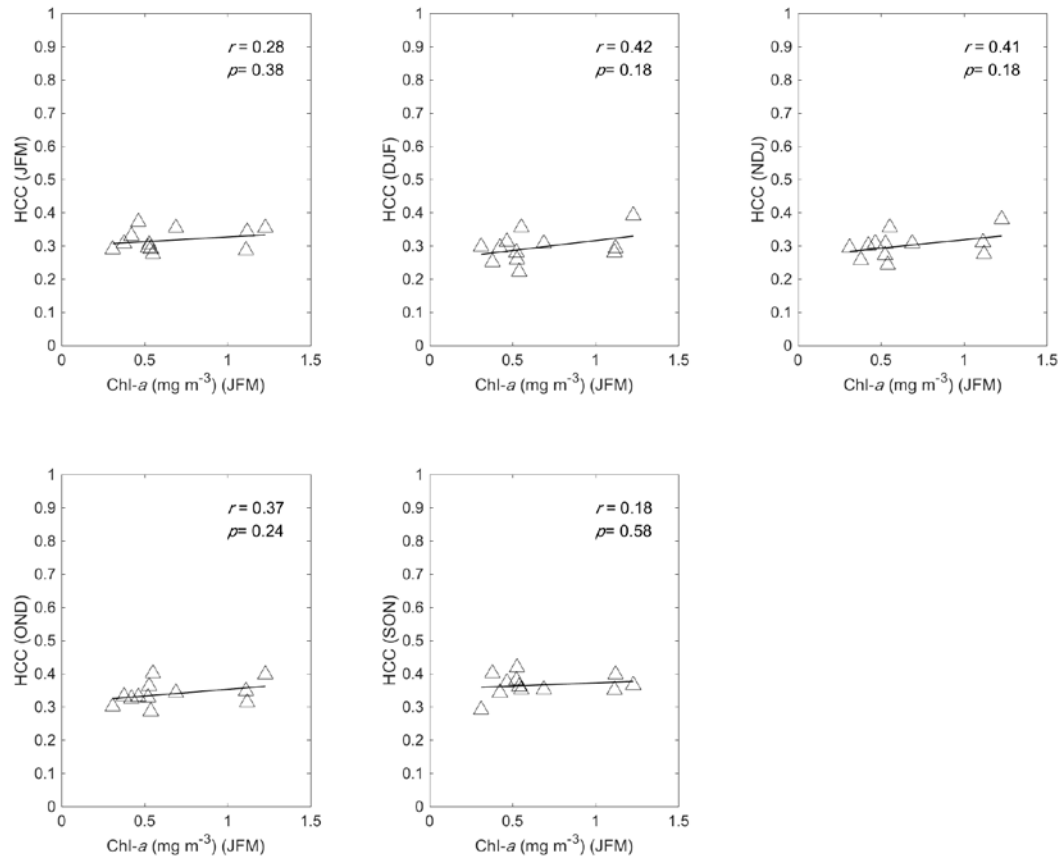
(f) Chl-*a* vs. wind speed (0 – 4 months lag)



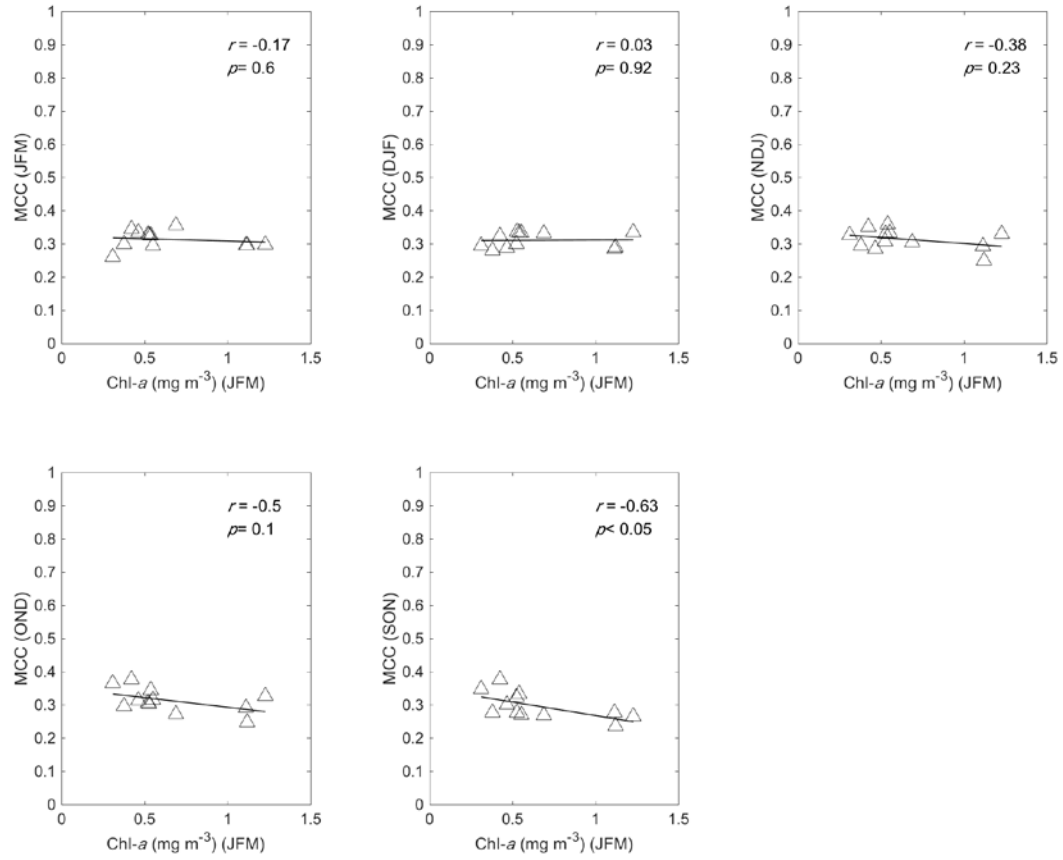
(g) Chl-*a* vs. Total cloud cover (TCC) (0 – 4 months lag)



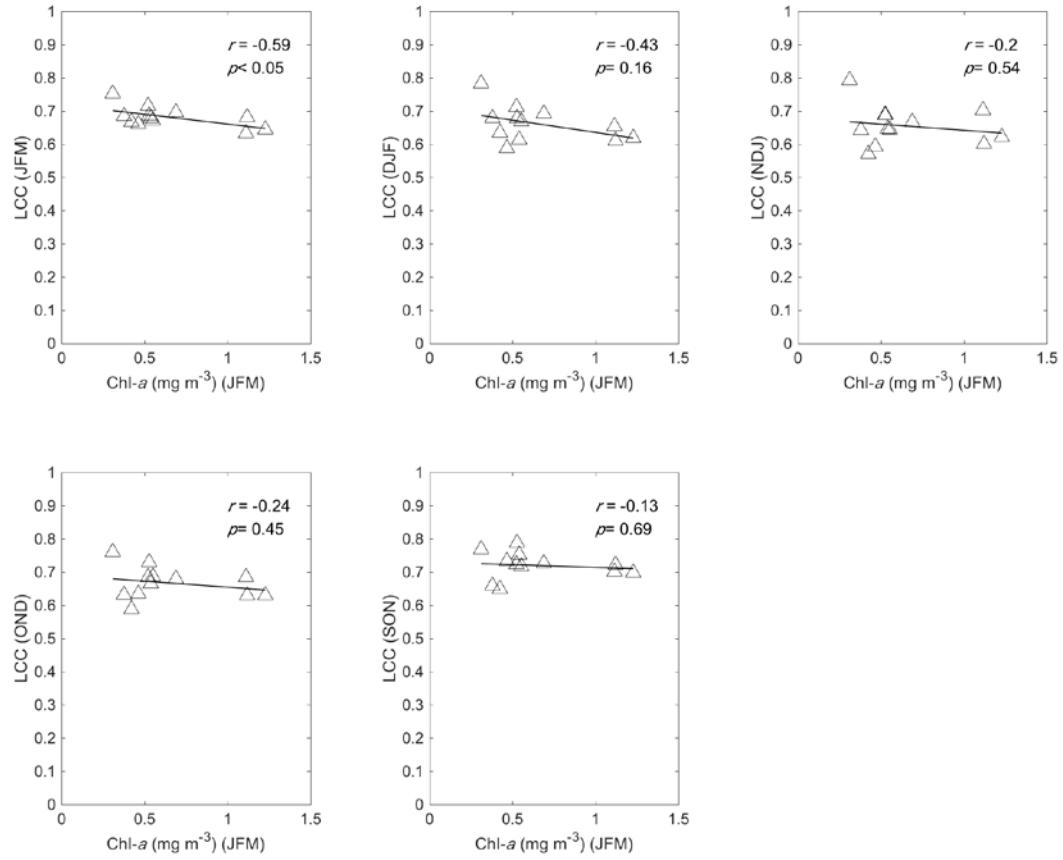
(h) Chl-*a* vs. High cloud cover (HCC) (0 – 4 months lag)

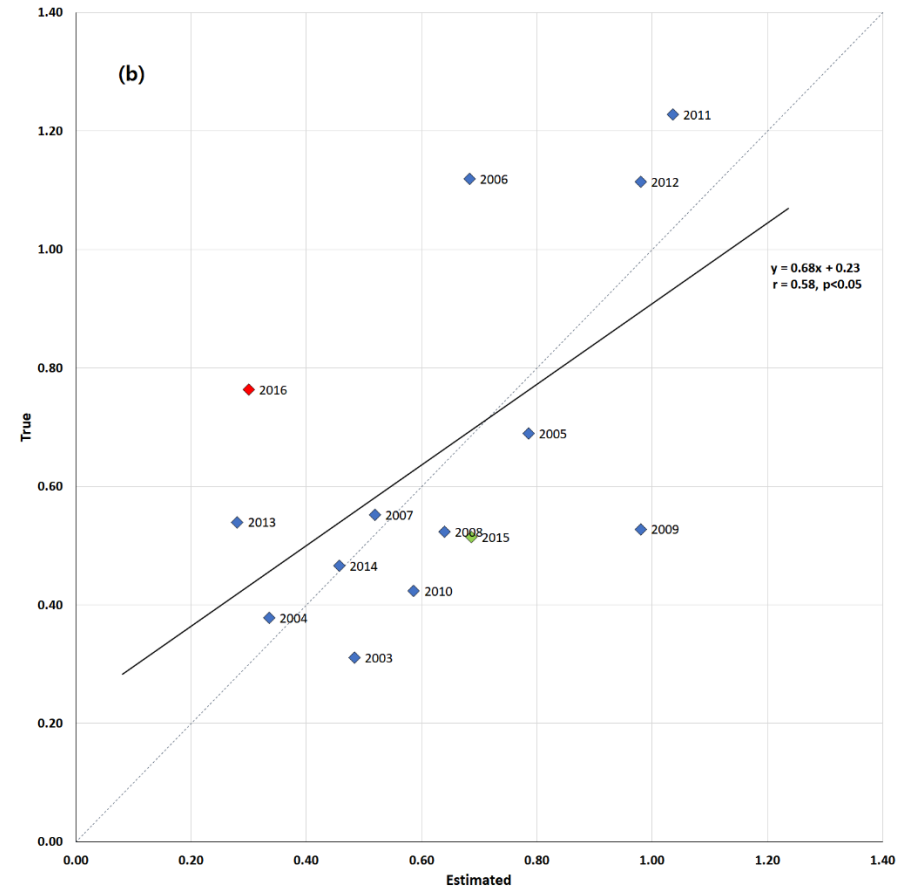
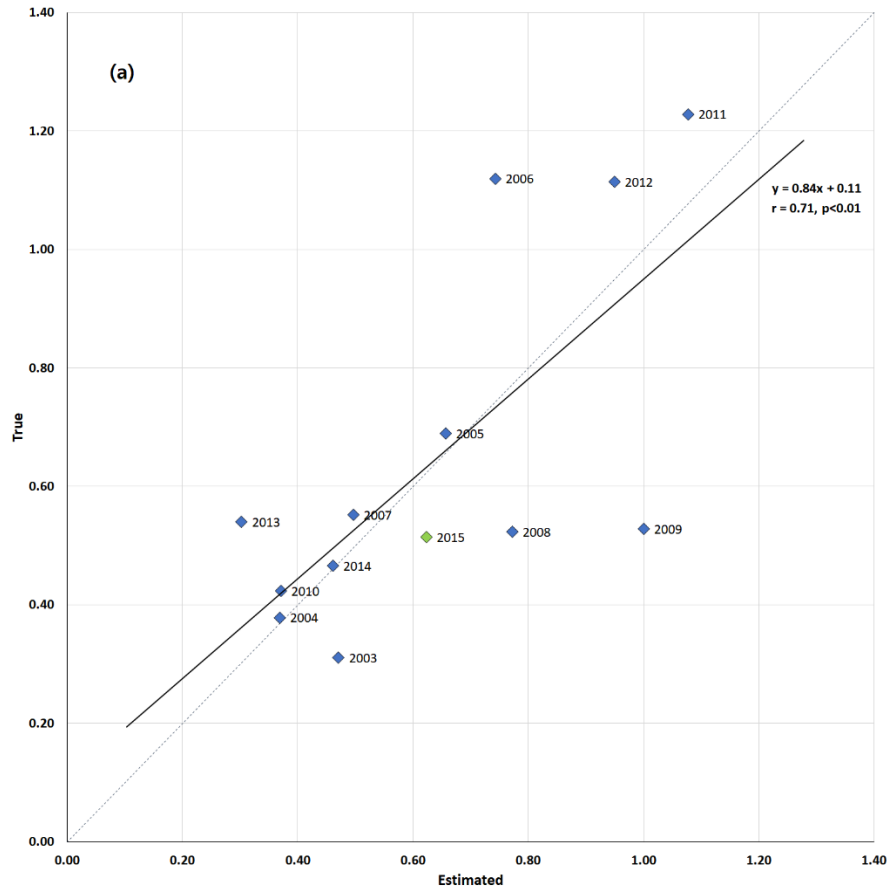


(i) Chl-*a* vs. Middle cloud cover (MCC) (0 – 4 months lag)



(j) Chl-*a* vs. Low cloud cover (LCC) (0 – 4 months lag)





Supplementary Fig. 4. Same multivariable regression analysis as Fig. 6 but with adding 2015 data set (a) and with adding 2015 and 2016 data set (b).