

Supplement of Atmos. Chem. Phys. Discuss., 14, 28453–28456, 2014  
<http://www.atmos-chem-phys-discuss.net/14/28453/2014/>  
doi:10.5194/acpd-14-28453-2014-supplement  
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*Supplement of*

## **DMS gas transfer coefficients from algal blooms in the Southern Ocean**

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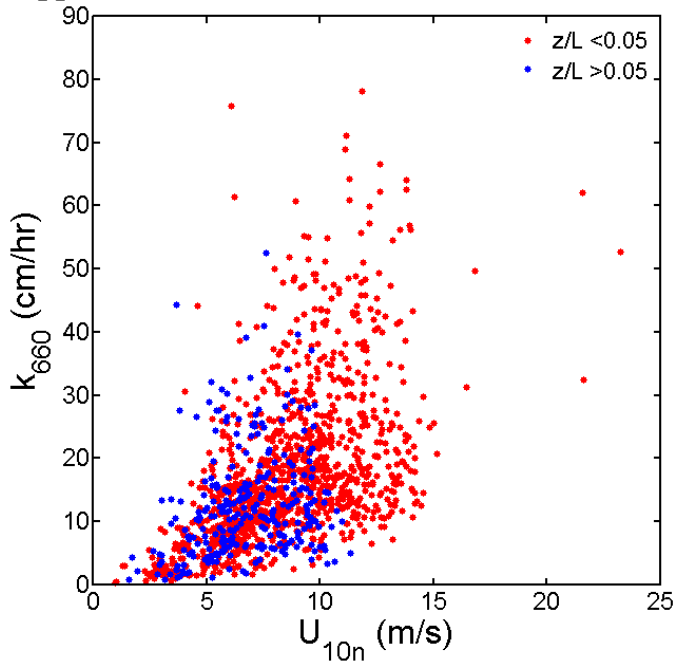
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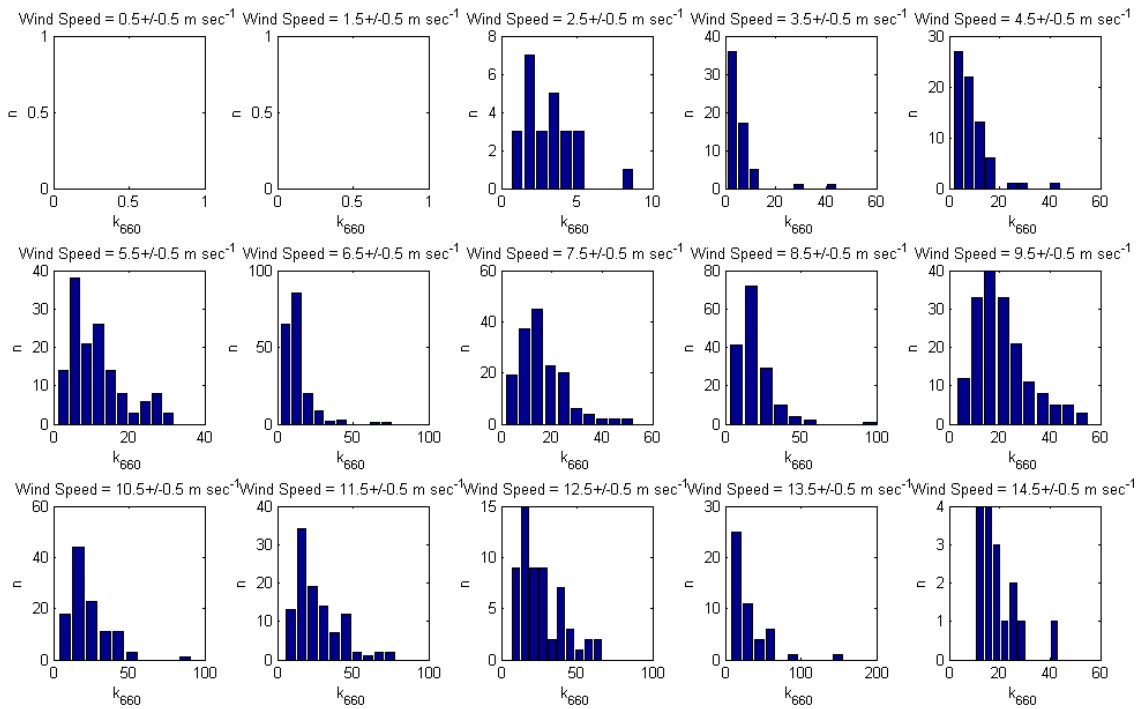
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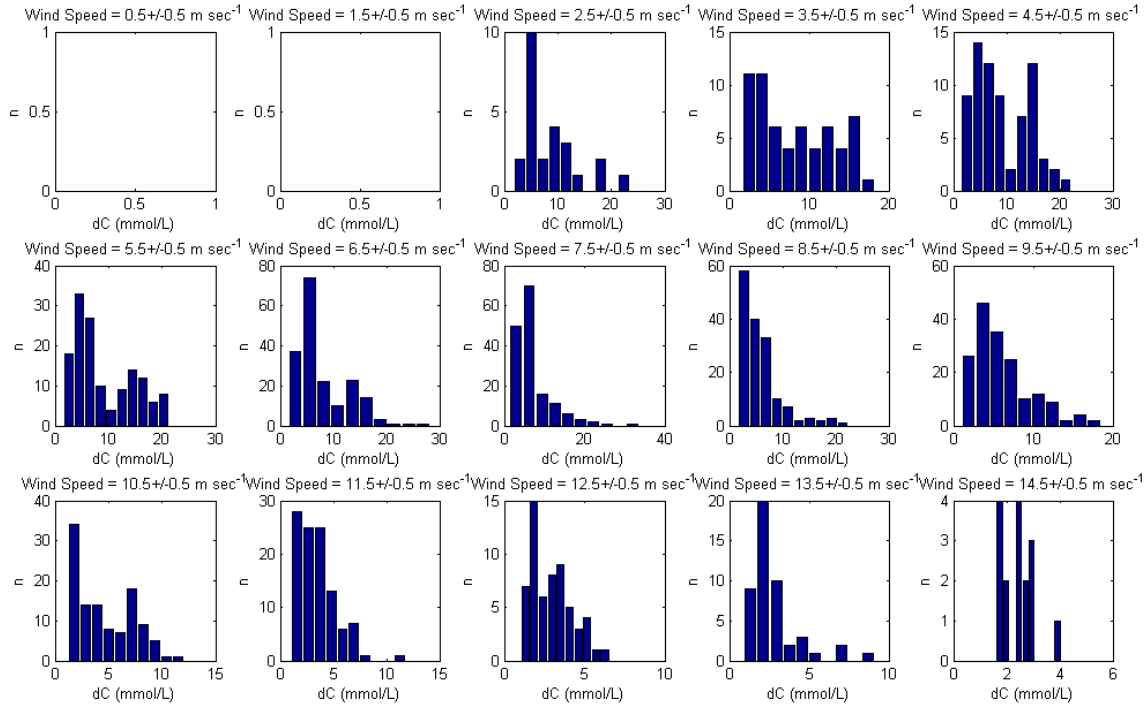
**Supplemental Material**



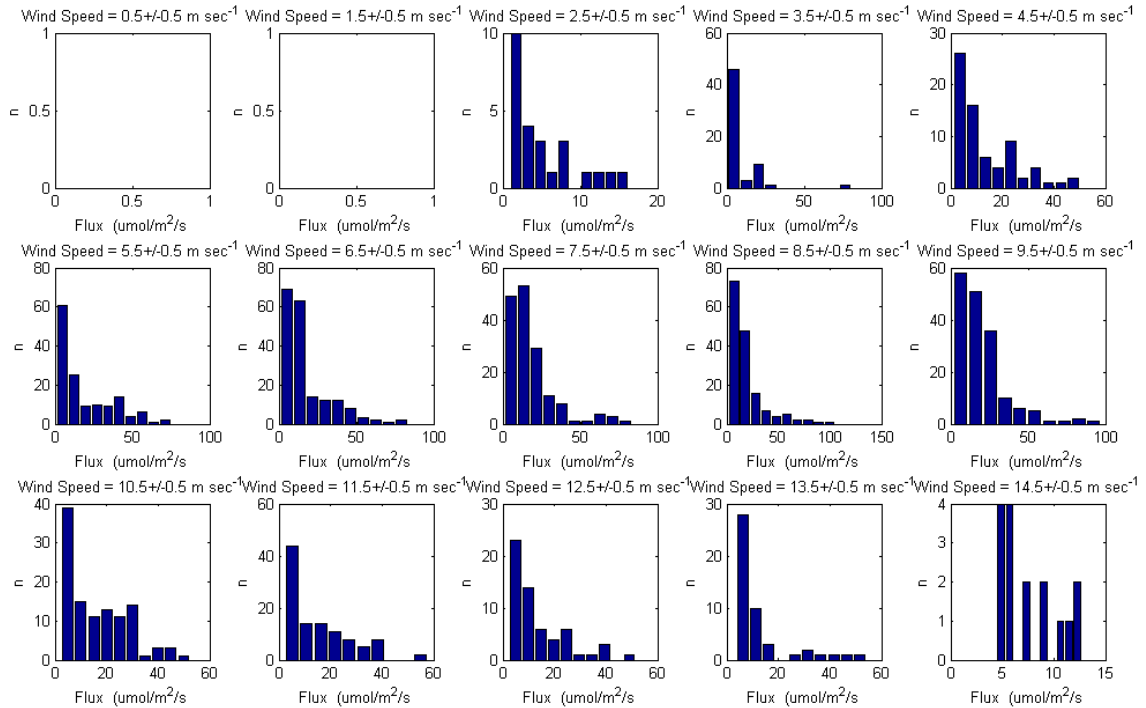
**Figure A**  
 SOAP gas transfer coefficients plotted as a function of wind speed, with symbol color used to distinguish data above (blue) or below (red) a stability ( $z/L$ ) threshold of 0.05 (see main text).



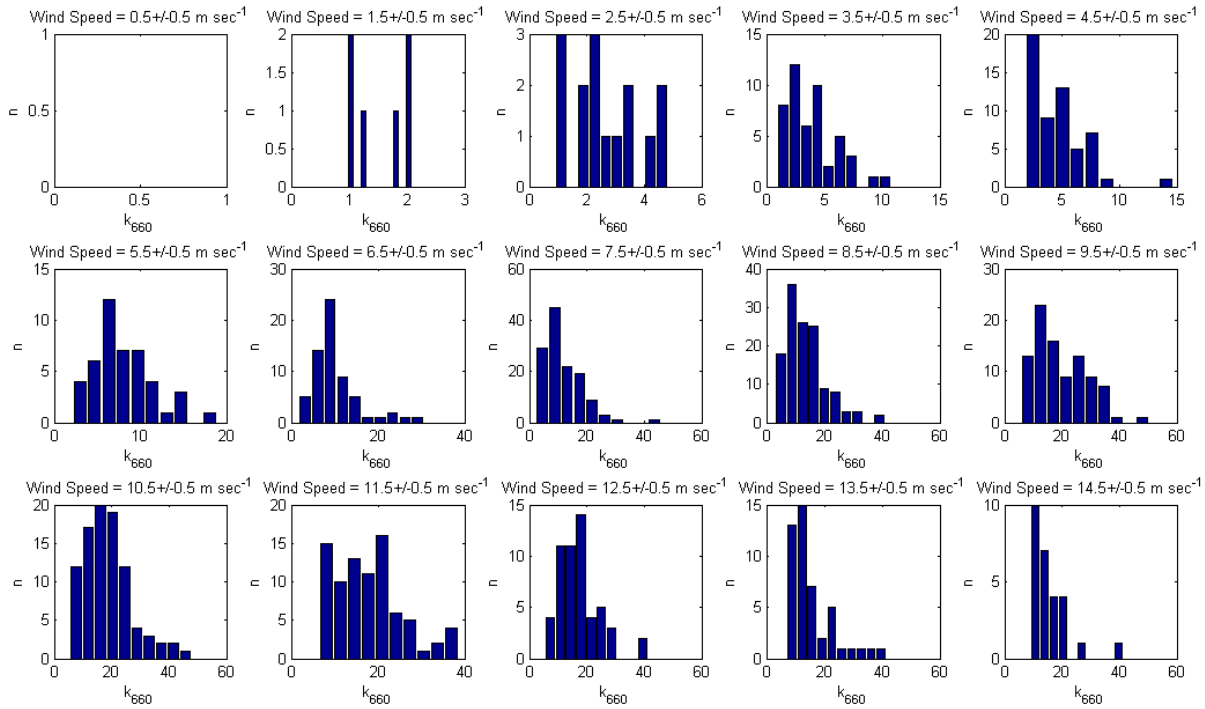
**Figure B**  
 Wind speed binned frequency distributions of  $k_{660}$  during the SOAP cruise illustrating log-normal behavior.



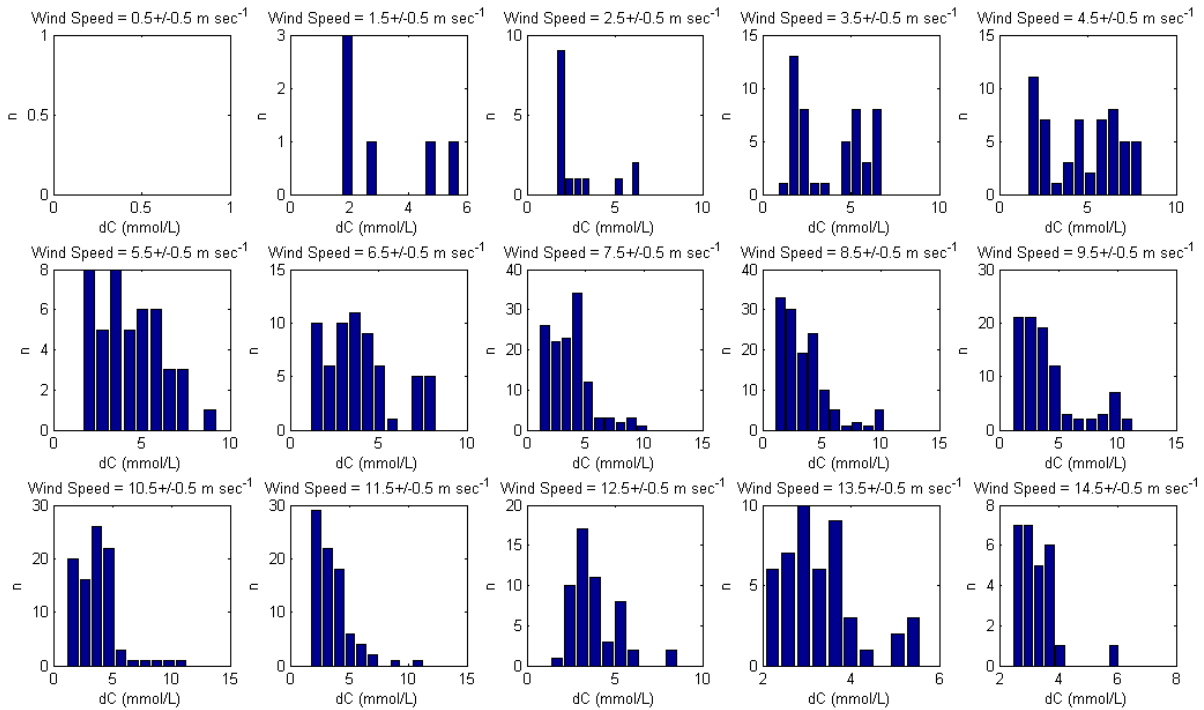
**Figure C**  
Wind speed binned frequency distributions of  $\Delta C$  during the SOAP cruise illustrating log-normal behavior.



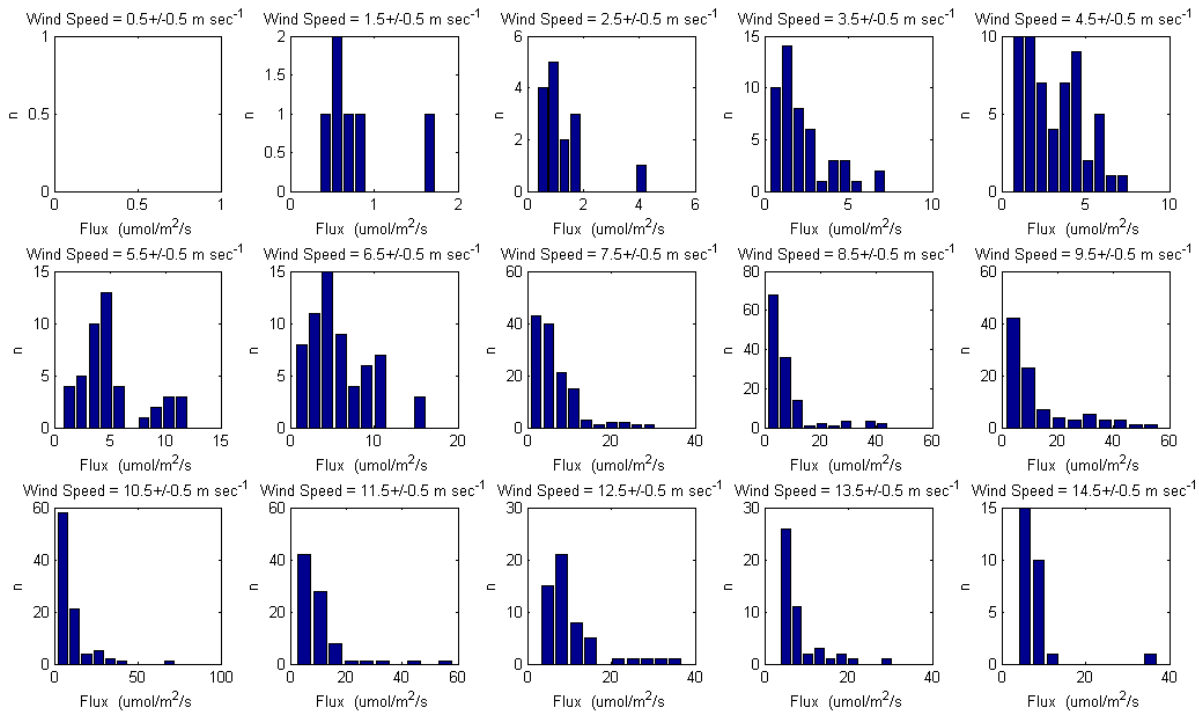
**Figure D**  
Wind speed binned frequency distributions of  $F_{DMS}$  during the SOAP cruise illustrating log-normal behavior.



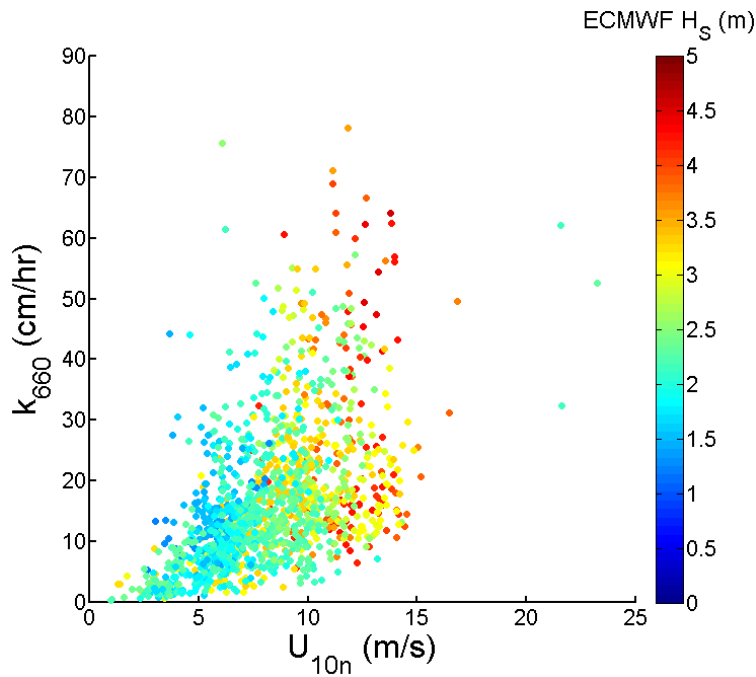
**Figure E**  
 Wind speed binned frequency distributions of  $k_{660}$  during the Knorr\_11 cruise illustrating log-normal behavior.



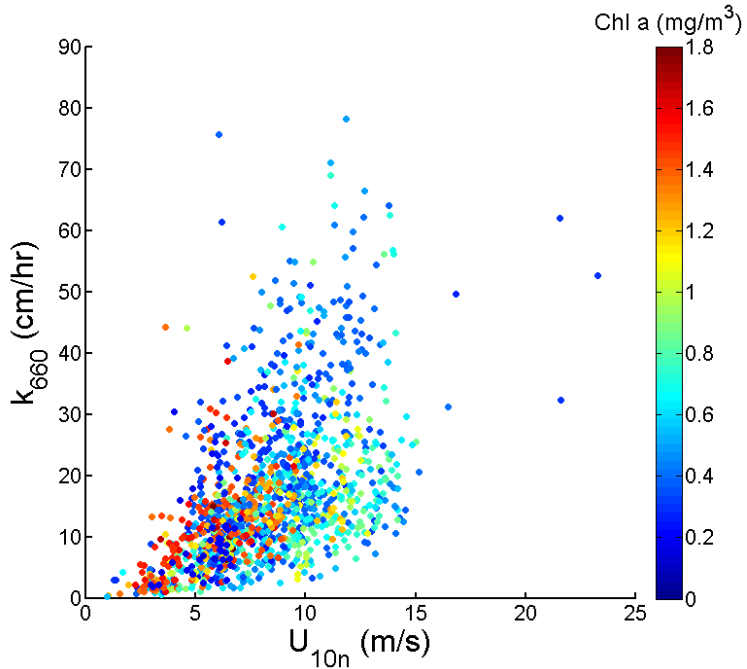
**Figure F**  
 Wind speed binned frequency distributions of  $\Delta C$  during the Knorr\_11 cruise illustrating log-normal behavior.



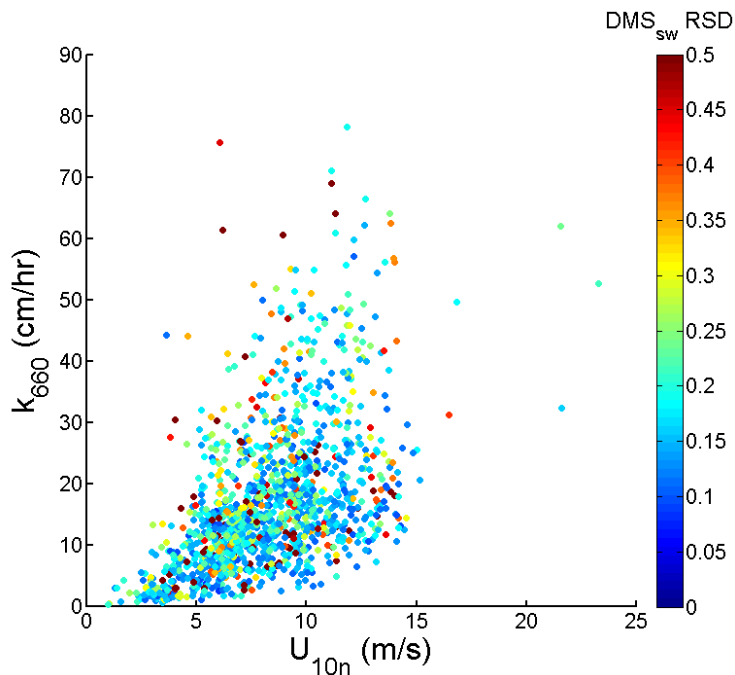
**Figure G**  
 Wind speed binned frequency distributions of  $F_{DMS}$  during the Knorr\_11 cruise illustrating log-normal behavior.



**Figure H**  
 SOAP gas transfer coefficients plotted as a function of wind speed, with symbol color indicating ECMWF-retrieved significant wave height.



**Figure I**  
 SOAP gas transfer coefficient residuals plotted as a function of wind speed, with symbol color indicating Chl *a*-from the ship's fluorometer.



**Figure J**  
 SOAP gas transfer coefficients plotted as a function of wind speed, with symbol color indicating  $DMS_{sw}$  RSD (see main text). Colourbar axis restricted to 0.5 to highlight larger RSD values. Maximum value = 2.77.