Auxiliary Material for

**Regionalized global budget of the CO2 exchange at the air-water interface in continental shelf seas**

Goulven G. Laruelle1-2, Ronny Lauerwald1-3, Benjamin Pfeil4, Pierre Regnier1

1. Dept. of Earth & Environmental Sciences, CP 160/02, Université Libre de Bruxelles, Bruxelles, Belgium
2. Department of Earth Sciences – Geochemistry, Faculty of Geosciences, Utrecht University, Utrecht, Netherlands
3. Institut Pierre-Simon Laplace, CNRS – FR636, 78280 Guyancourt cedex, France
4. University of Bergen/Bjerknes Centre for Climate Research, Bergen, Norway

Global Biogeochemical Cycles, 2014

Introduction

This table provides, for each COSCAT unit, the surface integrated CO2 fluxes and exchange rates at the air-water interface using 3 different parameterizations of the gas transfer coefficient: Takahashi et al., 2009 [TK09], Wanninhof, 1992 [WK92] and Hot et al., 2006 [Ho06]. The table also provides other information such as the integration methods used, the surface area of the COSCAT and its averaged ice cover.

1. ts01.docx: FCO2 and associated exchange rate calculated for each COSCAT.

1.1 Column “COSCAT”, number of the COSCAT unit.

1.2 Column “MARCATS”, number of the MARCATS to which the COSCAT belongs.

1.3 Column “Method”, spatial integration method used to calculate the CO2 emission rate.

1.4 Column “Season”, temporal integration method used to calculate the CO2 emission rate (‘m’ for monthly, ‘s’ for seasonally and ‘y’ for yearly).

1.5 Column “Confidence”, confidence rating of the estimate (as defined in section 2.5, \*\*\* for good, \*\* for fair and \* for poor).

1.6 Column “Surface”, total continental shelf surface area of the COSCAT in 106·km2, ignoring ice cover.

1.7 Column “Ice Cover”, yearly averaged ice cover of the COSCAT in percent.

1.8 Column “TK09”, spatially integrated CO2 flux at the air water interface (in 109 g C yr-1) calculated using the parameterization of Takahashi et al., 2009.

1.9 Column “Rate”, CO2 exchange rate per surface area (in mol C m-2 yr-1) calculated using the parameterization of Takahashi et al., 2009.

1.10 Column “WK92”, spatially integrated CO2 flux at the air water interface (in 109 g C yr-1) calculated using the parameterization of Wanninkhof, 1992.

1.11 Column “Rate”, CO2 exchange rate per surface area (in mol C m-2 yr-1) calculated using the parameterization of Wanninkhof, 1992.

1.12 Column “HO06”, spatially integrated CO2 flux at the air water interface (in 109 g C yr-1) calculated using the parameterization of Ho et al., 2006.

1.13 Column “Rate”, CO2 exchange rate per surface area (in mol C m-2 yr-1) calculated using the parameterization of Ho et al., 2006.