

Supplementary Tab. 1. Mean or range of published CO₂ concentration values (% saturation) and CO₂ evasion rates (mmol m⁻² d⁻¹) for different aquatic ecosystems. Saturation values and rates of CO₂ off-gassing measured in the present study are also reported.

Study site		CO ₂ (% sat.)			CO ₂ evasion (mmol m ⁻² d ⁻¹)		References	
		Range	Mean	SD	Range	Mean		
<u>Streams</u>	Boreal streams	Quebec, Canada		641			260	Teodoru <i>et al.</i> , 2009
	Walker Branch	Tennessee				157	373	Jones and Muhlolland, 1998 (in Hope <i>et al.</i> , 2001)
	Brocky Burn	121	764			22	3823	Hope <i>et al.</i> , 2001
	Havelse stream	Denmark					395	Sand-Jensen and Staehr, 2012
	Pøle stream	Denmark					495	Sand-Jensen and Staehr, 2012
<u>Small rivers</u>	Riviere a l'Eau Claire	Quebec, Canada		241			33	Teodoru <i>et al.</i> , 2009
	Loecknitz River	2500	4000					Gelbrecht <i>et al.</i> , 1998
	Lagan River	N. Ireland		778	416			Barth <i>et al.</i> , 2003
	Mincio River. N1	Italy		314	160	49	144	This study
	Mincio River. N2	Italy		399	241	69	210	This study
<u>Lakes</u>	Mincio River. S1	Italy		443	206	8	30	This study
	Mincio River. S2	Italy		483	190	7	27	This study
	Meech Lake	Canada		1980	2401			Wang and Veizer, 2000
	Lakes	Quebec, Canada		174			6	Teodoru <i>et al.</i> , 2009
	Pearl River	China		644				Chen <i>et al.</i> , 2008
<u>Large rivers</u>	Xijiang River	171	2057					Yao <i>et al.</i> , 2007 (in Koné <i>et al.</i> , 2009)
	Changjiang China	China		371	257			Wang <i>et al.</i> , 2007
	Central Amazon	Brazil		1243	543			Richey <i>et al.</i> , 2002
	Parana	Brazil		897	926			Depetris and Kempe, 1993
Amazon River	South America			12571		170	520	Richey <i>et al.</i> , 2002 (in Koné <i>et al.</i> , 2009); Richey <i>et al.</i> , 1991 (in Frankignoulle <i>et al.</i> , 1998)
Amazonian rivers and streams	South America					352	508	Rasera <i>et al.</i> , 2013

Colorado	USA			1227	56					Cole and Caraco, 2001
Illinois	USA			1263	69					Cole and Caraco, 2001
Mississippi	USA			1312	52					Cole and Caraco, 2001
Clark Fork River	USA							14		Lynch <i>et al.</i> , 2010
USA rivers and streams	USA					358	724			Butman and Raymond, 2011
Columbia	Canada			321	336					Cole and Caraco, 2001
Main channel of Upper St.Lawrence	Canada			109	27					Barth & Veizer, 1999
St.Lawrence	Canada			371						Hélie <i>et al.</i> , 2002
Eastmain	Quebec. Canada			175				16		Teodoru <i>et al.</i> , 2009
Upper Jordan	Jordan			703	174					Salinger <i>et al.</i> , 1983
Niger River	Western Africa	346	1803							Martin and Probst, 1991 (in Koné <i>et al.</i> , 2009)
Three tropical rivers		550	2741							Koné <i>et al.</i> , 2009
Tanoé River (unregulated river)	Cote D'Ivoire							137		Koné <i>et al.</i> , 2009
Comoé River (unregulated river)	Cote D'Ivoire							170		Koné <i>et al.</i> , 2009
Bia River (dammed river)	Cote D'Ivoire							49		Koné <i>et al.</i> , 2009
Weser	Germany			1256	847					Cole and Caraco, 2001
Spree River	Germany	500	900							Gelbrecht <i>et al.</i> , 1998
Elbe	Germany			1170	502					Cole and Caraco, 2001
Rhone	France			576	270					Cole and Caraco, 2001
Seine	France			566	223					Cole and Caraco, 2001
Rivers in Sweden	Sweden							422		Humborg <i>et al.</i> , 2010 (in Rasera <i>et al.</i> , 2013)
Arctic rivers (1 st -6 th order)	Alaska					11	114			Kling (pers. comm.) (in Hope <i>et al.</i> , 2001)
Range worldwide rivers						20	1026			Cole and Caraco, 2001
Estuaries worldwide		143	1714							Frankignoulle <i>et al.</i> , 1998
Inner Tamar estuary	UK	109	629			90	120			Frankignoulle <i>et al.</i> , 1998
Inner Thames estuary	UK	133	1486			210	290			Frankignoulle <i>et al.</i> , 1998
Inner Gironde estuary	France	126	817			50	110			Frankignoulle <i>et al.</i> , 1998
Inner Loire estuary	France	84	784							Bozec <i>et al.</i> , 2012
Inner Douro estuary	Portugal	380	629					240		Frankignoulle <i>et al.</i> , 1998
Inner Sado estuary	Portugal	164	1629					760		Frankignoulle <i>et al.</i> , 1998
Inner Elbe estuary	Germany	166	314					180		Frankignoulle <i>et al.</i> , 1998

Estuaries

Inner Ems estuary	Germany/Netherlands	160	1073					190	Frankignoulle <i>et al.</i> , 1998
Inner Rhine estuary	Netherlands	156	569			70	160		Frankignoulle <i>et al.</i> , 1998
Inner Scheldt estuary	Netherlands/ Belgium	36	2693			260	660		Frankignoulle <i>et al.</i> , 1998
Scheldt estuary	Belgium/Netherlands	1629	2714						Abril <i>et al.</i> , 2000
Humber estuary	U.K	429	1714						Jarvie <i>et al.</i> , 1997
Satilla River Estuary	USA					200	250		Cai <i>et al.</i> , 1999
Hudson River estuary	USA			321	115	16	37		Raymond <i>et al.</i> , 1997

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