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Supporting Information S2 for

A novel back-calculation approach to estimate ocean anthropogenic carbon using carbon-based data and a Total Matrix Intercomparison method

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Contents of this file

Table S1

Supplementary Table S1. Total C_{ant} inventories in five oceanic regions (*1.NA* - North Atlantic; *2. SA* - South Atlantic; *3.NP* - North Pacific; *4. SP*- South Pacific; and *5.Ind* - Indian), and global ocean (sum of the last five regions; *Global*). Total C_{ant} inventories are calculated for five products, highlighted in bold. A second calculation removing negative values is provided for Sabine et al. (2004), i.e., *W/O Negatives Sabine et al., 2004*.

Method	**C_{ant}** (mol C)	**C_{ant}** (Pg C)	**Mask area** (m^2)	**Product area** (m^2)	**C_{ant} *** (molC m^{-2})	**C_{ant} **** (Pg C)	**Region**
MCS-TMI[a]	1,032E+16	124	§3,5111E+14	3,5111E+14	29,41	**124** ± 7	Global
TrOCA[b]	1,267E+16	152	3,5111E+14	3,5111E+14	36,07	152	Global
C*[c]	8,304E+15	100	3,3887E+14	3,2134E+14	25,84	110	Global
W/O Negative C*[d]	8,695E+15	104	3,3887E+14	3,2134E+14	27,06	**115**	Global
TTD[e]	1,091E+16	131	3,3887E+14	3,3413E+14	32,65	**138**	Global
OCIM v2021[f]	9,94E+15	119	3,372E+14	3,327E+14	29,88	**126**	Global
Green Function[g]	9,974E+15	120	3,3887E+14	3,1725E+14	31,44	**134**	Global
MCS-TMI[a]	2,197E+15	26,36	§4,3733E+13	4,3733E+13	50,23	26,4	1. NA
TrOCA[b]	2,504E+15	30,05	4,3733E+13	4,3733E+13	57,27	30,1	1. NA
C*[c]	1,84E+15	22,08	4,1026E+13	3,6187E+13	50,84	26,7	1. NA
W/O Negative C*[d]	1,89E+15	22,68	4,1026E+13	3,6187E+13	52,23	27,4	1. NA
TTD[e]	1,896E+15	22,76	4,1026E+13	3,786E+13	50,09	26,3	1. NA
OCIM v2021[f]	2,217E+15	26,60	4,1147E+13	4,0718E+13	54,44	28,6	1. NA
Green Function[g]	1,957E+15	23,49	4,1026E+13	3,529E+13	55,47	29,1	1. NA
MCS-TMI[a]	1,412E+15	16,94	§4,8036E+13	4,8036E+13	29,39	16,9	2. SA
TrOCA[b]	2,105E+15	25,26	4,8036E+13	4,8036E+13	43,81	25,3	2. SA
C*[c]	1,278E+15	15,34	4,6516E+13	4,5924E+13	27,84	16,0	2. SA
W/O Negative C*[d]	1,412E+15	16,95	4,6516E+13	4,5924E+13	30,75	17,7	2. SA
TTD[e]	1,8E+15	21,60	4,6516E+13	4,6125E+13	39,03	22,5	2. SA
OCIM v2021[f]	1,442E+15	17,30	4,604E+13	4,5502E+13	31,69	18,3	2. SA
Green Function[g]	1,414E+15	16,97	4,6516E+13	4,5423E+13	31,13	17,9	2. SA
MCS-TMI[a]	1,952E+15	23,43	§8,3816E+13	8,3816E+13	23,29	23,4	3. NP
TrOCA[b]	1,407E+15	16,88	8,3816E+13	8,3816E+13	16,78	16,9	3. NP
C*[c]	1,194E+15	14,33	8,0696E+13	7,3734E+13	16,20	16,3	3. NP
W/O Negative C*[d]	1,286E+15	15,44	8,0696E+13	7,3734E+13	17,45	17,5	3. NP
TTD[e]	1,769E+15	21,22	8,0696E+13	8,0198E+13	22,05	22,2	3. NP
OCIM v2021[f]	1,545E+15	18,54	8,084E+13	7,9406E+13	19,45	19,6	3. NP
Green Function[g]	1,599E+15	19,18	8,0696E+13	7,3013E+13	21,90	22,0	3. NP
MCS-TMI[a]	3,151E+15	37,81	§1,0278E+14	1,0278E+14	30,65	37,8	4. SP
TrOCA[b]	4,218E+15	50,62	1,0278E+14	1,0278E+14	41,04	50,6	4. SP
C*[c]	2,113E+15	25,36	9,9689E+13	9,623E+13	21,96	27,1	4. SP
W/O Negative C*[d]	2,209E+15	26,50	9,9689E+13	9,623E+13	22,95	28,3	4. SP
TTD[e]	3,02E+15	36,24	9,9689E+13	9,919E+13	30,44	37,5	4. SP
OCIM v2021[f]	2,636E+15	31,63	9,8784E+13	9,776E+13	26,96	33,3	4. SP
Green Function[g]	2,856E+15	34,27	9,9689E+13	9,5265E+13	29,98	37,0	4. SP

MCS-TMI[a]	1,615E+15	19,39	[§]7,2748E+13	7,2748E+13	22,21	19,4	5. Ind
TrOCA[b]	2,432E+15	29,19	7,2748E+13	7,2748E+13	33,44	29,2	5. Ind
C*[c]	1,877E+15	22,53	7,0944E+13	6,9265E+13	27,11	23,7	5. Ind
W/O Negative C*[d]	1,898E+15	22,78	7,0944E+13	6,9265E+13	27,40	23,9	5. Ind
TTD[e]	2,426E+15	29,11	7,0944E+13	7,0753E+13	34,28	29,9	5. Ind
OCIM v2021[f]	2,101E+15	25,21	7,0393E+13	6,9313E+13	30,31	26,5	5. Ind
Green Function[g]	2,148E+15	25,77	7,0944E+13	6,826E+13	31,46	27,5	5. Ind

Note. [a]López-Mozos et al. This study. [b]Tourarier et al. (2007). [c,d]Sabine et al (2004). [e]Lauvset et al. (2016). [f]DeVries (2022). [g]Khatiwala et al. (2009).* divided by product area ** divided by product area and scaled to a reference area. [§] reference area.