Table 1. Simplified[1] pro-forma present-day oceanic fixed-N budgets [in Tg] and the unfractionated/fractionated ratio[2].

Process	G&S 2002	G2004	C et al. 2001	C 2007
Nitrogen Fixation	132 ± 41	135 ± 51	132	135+++
Benthic Denitrification	95 ± 20	180 ± 50	300	300+
UF/F Ratio	1.2	3.6	3.8 57	3.8 57
Water Column Denit.	80 ± 20	50 ± 20	150	150++
Totals (all sources&sinks)	+ **34** ± 53	**5** ± 78	**-188**	**-234**

[1] G&S 2002 = Gruber and Sarmiento (2002). G 2004 = Gruber (2004). C et al. (2001) = Codispoti et al. (2001), and C 2007 = this paper. Other significant sources (in $Tg\,N\,a^{-1}$) include riverine inputs estimated by the above budgets as 76–80±14. Estimates for atmospheric inputs are as follows: G&S 2002 = 30±5, C et al. = 86, G 2004 = 50 & C 2007 = 30. Benthic nitrogen fixation was taken to be 15±10 in all of the above budgets, and is lumped with water column nitrogen fixation. Other sinks include burial which is 25±10 in all budgets, and N_2O loss to the atmosphere taken as 4±2 in G&S 2002 and G 2004, and as 6 in C et al. (2001), and C 2007. Some budgets suggest a loss of $\sim 1\,Tg\,N\,a^{-1}$ due to organic-N export from the ocean.

[2] The arrows and the value "57" indicate that with respect to isotopic fractionation of N, this paper assumes that 38% of total water column denitrification behaves like sedimentary denitrification. Unfractionated (sediments + water)/fractionated denitrification ratios (UF/F) are shown in blue.