

Revised Table 2 and Table 4.

Table 2. Inventories of radionuclides in dissolved and particulate phases of seawater, deficiencies of total activity of daughter with respect to parent radionuclides, and their removal fluxes from the euphotic layer. Uncertainties of various removal fluxes are estimated based on propagated errors ($\pm 1\sigma$)

Cruise	Time	Inventory (dpm m ⁻²)						Deficiency (dpm m ⁻²)			Removal flux (dpm m ⁻² d ⁻¹)		
		²³⁴ Th _d	²³⁴ Th _p	²¹⁰ Pb _d	²¹⁰ Pb _p	²¹⁰ Po _d	²¹⁰ Po _p	(²³⁸ U- ²³⁴ Th _i)	(²²⁶ Ra- ²¹⁰ Pb _i)	(²¹⁰ Pb _i - ²¹⁰ Po _i)	F _{Th} '	F _{Pb} '	F _{Po} '
ORI-812*	Oct '06	191000		7280		6103		50307	-1421	1177	1447 ± 139	16.3 ± 2.4	7.5 ± 2.1
ORI-821	Jan '07	149524	37578	7534	985	3266	2564	55080	-2925	2690	1584 ± 174	16.2 ± 4.4	15.1 ± 6.8
ORIII-1239	Jul '07	161069	14795	7069	415	3529	744	64557	-1868	3210	1857 ± 174	16.3 ± 5.5	17.7 ± 10.2
ORI-845	Oct '07	182687	18436	5394	741	3465	515	38424	-278	2156	1105 ± 125	16.4 ± 2.9	12.4 ± 5.0
ORI-866	Jun '08	152631	34811	9555	1003	4792	1325	55640	-4769	4441	1600 ± 110	16.0 ± 2.7	23.9 ± 6.3
ORI-887	Dec '08	156938	24882	8053	894	3744	1076	56537	-3366	4127	1626 ± 129	16.2 ± 2.8	22.3 ± 7.2

* Inventories of ²³⁴Th, ²¹⁰Pb, and ²¹⁰Po represent total values since the radionuclide activities were measured on unfiltered sample.

Table 4. Export production estimated by various methods in the South China Sea. Average and standard deviation of various fluxes from this study are shown in parentheses.

Method	mmol-C m ⁻² d ⁻¹	Reference	Note
<u>Northern shelf</u>			
²³⁴ Th proxy	5.3~26.6	Chen et al. (2008)	Estimated POC flux at 100 m
<u>Central basin</u>			
²²⁸ Ra-NO ₃ coupling	26.5	Nozaki and Yamamoto (2001)	Estimated diffusive NO ₃ flux at 100 m
Biogeochemical modeling	1.7~3.5	Liu et al. (2002)	Estimated POC flux at 125 m
¹⁵ N new production	3.8~6.7	Chen (2005)	
Carbon budget	2.9~6.7	Chou et al. (2006)	Net community production at mixed depth
Moored sediment trap	4.2~71.8	Ho et al. (2009)	Estimated by phosphorus flux at 160 m
Moored sediment trap	3.3~55.0	Ho et al. (2011)	Measurement of POC flux at 120 m
Floating trap	9.8~18.5 (14.4±3.3)	This study	Measurement of POC flux at 100 m
²³⁴ Th proxy	9.6~21.0 (13.4±4.1)		Estimated POC flux at 100 m
²¹⁰ Pb proxy	7.2~21.3 (12.3±5.5)		Estimated POC flux at 100 m
²¹⁰ Po proxy	1.8~20.3 (9.8±6.7)		Estimated POC flux at 100 m
<u>Southern shelf</u>			
²²⁸ Ra-NO ₃ coupling	4.4~5.7	Cai et al. (2002a, 2002b)	Estimated diffusive NO ₃ flux at 200 m
²³⁴ Th proxy	5.7		Estimated POC flux at 100 m
²²⁸ Th proxy	1.7		Estimated POC flux at 100 m
²¹⁰ Po proxy	1.2		Yang et al. (2009)