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*Supplement of*

## **Sources, fluxes, and behaviors of fluorescent dissolved organic matter (FDOM) in the Nakdong River Estuary, Korea**

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1 **Supplementary materials**

2 Table S1. The concentrations of FDOM<sub>H</sub>, FDOM<sub>P</sub>, and DOC, and the values of  $\delta^{13}\text{C}$  in DOC  
 3 in the Nakdong-River Estuary.

Oct. 23 2014	time	Salinity	FDOM <sub>H</sub> (QSU)	FDOM <sub>P</sub> (QSU)	DOC ( $\mu\text{M}$ )	DO <sup>13</sup> C (‰)	
	1	15:00	0.23	16.3	15.8	229	-25.4
	2	16:00	0.33	13.9	13.6	220	-
	3	17:00	0.40	14.7	14.2	219	-23.8
	4	18:00	0.18	15.6	16.2	232	-
	5	19:00	0.17	14.1	15.2	n/a	-
	6	20:00	0.31	14.2	14.7	230	-24.6
	7	21:00	0.20	16.0	15.9	218	-24.9
	8	22:00	0.59	14.2	14.4	225	-
	9	23:00	4.51	12.5	13.3	203	-25.0
	10	0:00	2.54	14.5	15.1	213	-
	11	1:00	3.17	13.0	13.2	n/a	-25.7
	12	2:00	3.72	13.1	12.9	207	-
	13	3:00	3.27	12.2	12.2	191	-25.4
	14	4:00	2.46	14.4	14.5	199	-
	15	5:00	2.42	14.8	14.6	207	-25.6
	16	6:00	2.88	14.8	14.1	194	-
	17	7:00	3.61	13.8	13.5	193	-25.5
	18	8:00	8.40	11.4	12.0	171	-
	19	9:00	9.85	7.6	7.6	152	-24.3
	20	10:00	17.88	11.6	11.7	180	-
	21	11:00	14.15	8.3	8.7	146	-23.7
	22	12:00	11.82	10.3	11.4	168	-
	23	13:00	5.36	12.3	14.3	206	-25.5
	24	14:00	3.11	13.1	16.9	212	-
Nov. 24 2014							
	1	14:00	19.22	6.4	5.8	145	-24.2
	2	15:00	18.71	6.4	6.3	153	-
	3	16:00	16.99	7.1	7.1	160	-24.7
	4	17:00	16.83	7.0	6.7	156	-
	5	18:00	16.86	7.0	6.7	153	-24.3
	6	19:00	18.10	6.6	6.0	150	-

7	20:00	17.00	6.9	6.3	153	-24.0
8	21:00	18.08	6.9	6.4	158	-
9	22:00	19.98	5.6	5.5	138	-23.9
10	23:00	22.25	5.0	5.0	129	-
11	0:00	17.92	6.3	5.9	144	-25.1
12	1:00	15.69	7.1	6.5	156	-
13	2:00	16.11	7.1	8.0	149	-25.2
14	3:00	14.15	7.7	6.9	156	-
15	4:00	12.38	8.8	7.9	162	-24.5
16	5:00	10.56	9.2	8.1	168	-
17	6:00	10.44	8.9	8.1	167	-23.1
18	7:00	8.66	9.4	8.8	173	-
19	8:00	10.18	9.0	8.1	166	-23.5
20	9:00	12.42	8.4	7.6	160	-
21	10:00	16.27	6.8	6.4	141	-25.4
22	11:00	17.96	6.6	6.3	144	-
23	12:00	25.37	4.3	4.9	110	-21.1
24	13:00	20.01	5.8	5.6	132	-

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Dec. 22 2014

1	14:00	21.31	5.2	11.9	n/a	-
2	15:00	20.26	5.6	9.5	154	-22.1
3	16:00	19.72	5.4	9.6	159	-
4	17:00	17.59	6.0	10.5	163	-22.2
5	18:00	17.65	5.7	10.2	149	-
6	19:00	17.09	6.3	11.3	162	-22.2
7	20:00	18.45	5.6	9.9	150	-
8	21:00	18.90	5.6	9.4	150	-22.7
9	22:00	20.48	4.8	8.5	148	-
10	23:00	21.83	4.6	8.0	144	-21.5
11	0:00	22.87	4.5	7.4	135	-
12	1:00	22.14	4.5	7.6	128	-21.5
13	2:00	23.02	3.9	6.5	123	-
14	3:00	23.75	4.0	6.3	117	-21.0
15	4:00	24.33	3.7	5.8	110	-
16	5:00	25.86	3.3	5.0	105	-20.4
17	6:00	24.55	3.8	6.0	111	-
18	7:00	24.97	4.0	5.5	106	-17.6
19	8:00	25.09	3.6	5.6	127	-
20	9:00	25.11	3.7	5.8	107	-20.2

21	10:00	24.38	3.6	5.9	106	-
22	11:00	25.85	3.2	4.9	103	-19.8
23	12:00	23.20	3.7	5.6	104	-
24	13:00	23.46	4.1	6.8	107	-21.4

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Jan. 21 2015

1	14:00	27.08	2.8	6.8	n/a	-
2	15:00	25.65	3.0	5.4	118	-22.2
3	16:00	23.15	3.5	5.5	125	-
4	17:00	17.48	5.0	7.4	145	-22.9
5	18:00	16.92	5.2	7.5	144	-
6	19:00	15.61	5.6	7.8	149	-24.6
7	20:00	16.12	5.4	7.3	142	-
8	21:00	18.32	5.0	6.9	131	-
9	22:00	18.28	5.1	7.3	140	-
10	23:00	19.50	5.0	7.1	134	-22.2
11	0:00	21.74	3.7	6.3	133	-
12	1:00	24.84	3.1	4.8	110	-20.1
13	2:00	26.88	2.6	4.5	107	-
14	3:00	25.73	2.9	5.3	109	-19.6
15	4:00	24.31	3.2	5.2	116	-
16	5:00	23.33	3.6	5.4	113	-21.5
17	6:00	19.95	4.4	6.4	128	-
18	7:00	19.41	4.6	6.5	128	-23.0
19	8:00	23.88	3.2	4.6	112	-
20	9:00	25.93	0.1	0.7	104	-20.5
21	10:00	23.08	3.3	4.9	115	-22.4
22	11:00	23.51	3.3	5.5	105	-19.8
23	12:00	23.97	3.1	4.6	117	-21.2
24	13:00	24.55	3.3	4.9	120	-21.4

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Feb. 23 2015

1	12:00	20.59	4.5	8.4	n/a	-
2	13:00	23.30	4.0	7.8	121	-22.2
3	14:00	25.98	3.6	6.7	113	-
4	15:00	25.36	3.6	6.6	119	-22.9
5	16:00	23.05	3.9	7.6	119	-
6	17:00	19.12	5.0	9.5	132	-24.6
7	18:00	18.13	5.0	9.5	136	-
8	19:00	18.44	5.1	9.3	130	-
9	20:00	19.33	4.6	8.6	123	-

10	21:00	19.83	5.0	8.9	123	-22.2
11	22:00	17.01	4.9	9.2	125	-
12	23:00	17.46	4.9	9.1	126	-20.1
13	0:00	20.92	4.5	7.8	110	-
14	1:00	22.69	3.8	6.6	107	-19.6
15	2:00	24.41	3.6	6.1	103	-
16	3:00	25.83	3.1	5.3	102	-21.5
17	4:00	24.21	3.4	6.1	106	-
18	5:00	24.27	3.4	5.9	104	-23.0
19	6:00	22.38	3.9	6.8	111	-
20	7:00	24.61	3.3	5.9	103	-20.5
21	8:00	25.78	3.0	5.1	99	-
22	9:00	24.16	3.5	6.3	108	-
23	10:00	24.03	3.5	6.3	108	-
24	11:00	22.27	3.9	7.2	109	-

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Mar. 22 2015

1	11:00	16.12	4.8	22.4	n/a	-23.2
2	12:00	19.12	4.3	12.0	141	-
3	13:00	11.29	5.5	15.8	161	-22.5
4	14:00	10.96	6.0	16.4	161	-
5	15:00	5.43	7.1	19.4	183	-23.4
6	16:00	4.83	7.1	20.1	174	-
7	17:00	3.35	7.4	20.9	177	-23.8
8	18:00	3.98	7.2	20.2	185	-
9	19:00	3.46	7.3	20.3	186	-24.4
10	20:00	7.50	6.5	17.5	166	-
11	21:00	8.86	6.1	16.2	164	-23.9
12	22:00	11.72	5.5	15.0	148	-
13	23:00	14.44	5.7	14.8	142	-23.3
14	0:00	14.06	5.4	14.1	143	-
15	1:00	17.15	4.7	11.4	127	-23.4
16	2:00	17.23	5.8	12.3	132	-
17	3:00	17.08	4.8	11.7	134	-22.8
18	4:00	14.81	5.3	13.9	134	-
19	5:00	15.17	6.1	12.4	137	-23.8
20	6:00	15.65	5.4	12.7	137	-
21	7:00	16.64	4.7	11.8	142	-23.2
22	8:00	15.76	9.1	11.5	135	-
23	9:00	15.96	5.1	12.3	137	-23.7

24	10:00	17.75	4.6	11.1	126	-
Apr. 21 2015						
1	10:00	3.23	9.8	15.8	n/a	-25.7
2	11:00	5.32	9.0	13.0	174	-
3	12:00	8.88	7.6	10.6	152	-25.0
4	13:00	10.14	7.3	10.7	147	-
5	14:00	5.76	8.1	11.6	160	-24.7
6	15:00	4.45	8.5	12.1	163	-
7	16:00	2.46	9.1	12.8	172	-25.7
8	17:00	1.79	9.1	12.6	169	-
9	18:00	1.39	8.4	13.1	170	-25.6
10	19:00	0.78	8.2	12.1	164	-
11	20:00	1.86	7.9	13.2	165	-25.4
12	21:00	1.71	8.2	11.9	163	-
13	22:00	2.88	7.6	11.6	160	-26.5
14	23:00	5.56	7.4	10.1	148	-
15	0:00	12.18	5.9	8.2	133	-23.3
16	1:00	11.03	6.3	8.6	145	-
17	2:00	9.23	6.6	8.7	155	-24.8
18	3:00	7.94	7.1	9.4	160	-
19	4:00	6.66	7.7	10.9	163	-25.6
20	5:00	5.92	9.1	11.7	171	-
21	6:00	5.00	8.9	12.4	163	-24.9
22	7:00	3.28	9.2	14.2	172	-
23	8:00	3.03	9.1	12.4	171	-25.3
24	9:00	3.33	9.2	12.3	172	-
May 19 2015						
1	17:00	13.90	6.3	7.1	n/a	-
2	18:00	13.76	6.8	6.1	156	-
3	19:00	13.32	6.9	6.1	147	-
4	20:00	16.06	6.2	4.8	143	-24.6
5	21:00	15.45	6.1	6.3	146	-
6	22:00	16.03	6.0	6.8	145	-21.8
7	23:00	16.83	5.6	6.6	139	-
8	0:00	19.33	5.1	4.8	133	-21.8
9	1:00	15.75	5.7	5.1	135	-
10	2:00	14.97	6.2	5.3	142	-23.2
11	3:00	15.18	5.9	5.1	143	-24.6
12	4:00	n/a	n/a	n/a	n/a	-

13	5:00	13.10	6.3	5.3	148	-
14	6:00	12.21	6.6	5.5	154	-23.9
15	7:00	11.48	7.0	5.8	152	-
16	8:00	13.87	6.9	5.7	163	-24.4
17	9:00	11.19	6.2	5.2	155	-
18	10:00	16.49	6.5	5.6	148	-23.5
19	11:00	20.08	5.3	5.3	132	-
20	12:00	23.75	4.4	5.9	123	-22.2
21	13:00	22.43	0.4	0.6	126	-
22	14:00	22.66	2.5	3.2	137	-22.6
23	15:00	n/a	n/a	n/a	n/a	-
24	16:00	19.22	5.9	6.1	162	-24.0

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Jun. 18 2015

1	14:00	23.96	4.3	5.8	147	
2	15:00	22.58	4.4	5.1	142	-24.9
3	16:00	21.85	4.6	4.8	135	
4	17:00	22.53	4.4	4.8	137	-22.7
5	18:00	24.57	3.8	4.0	128	
6	19:00	25.93	3.5	3.6	120	-21.8
7	20:00	26.30	3.4	3.4	113	
8	21:00	26.45	3.3	3.6	113	-20.6
9	22:00	26.78	3.1	3.3	111	
10	23:00	26.78	3.1	3.4		-20.7
11	0:00	28.49	2.8	3.7	112	
12	1:00	28.46	2.9	3.7	109	-20.0
13	2:00	27.46	3.1	3.6	118	
14	3:00	26.39	3.2	3.6	121	-21.3
15	4:00	26.05	3.3	3.4	128	
16	5:00	25.13	3.7	3.9	130	-21.3
17	6:00	25.26	3.3	3.3	126	
18	7:00	26.87	3.0	3.1	119	-20.7
19	8:00	26.72	3.0	3.2	118	
20	9:00	26.40	2.9	3.1	120	-19.2
21	10:00	27.17	2.6	3.0	114	
22	11:00	28.31	2.4	3.0	115	-18.8
23	12:00	25.28	3.2	4.0	124	
24	13:00	25.19	3.3	4.2	129	-21.6

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Jul. 15 2015

1	11:00	8.33	16.4	8.7	250	-24.8
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2	12:00	6.02	17.3	7.5	245	-25.2
3	13:00	2.37	19.7	7.5	249	-25.5
4	14:00	2.38	19.2	7.6	256	-25.7
5	15:00	1.82	19.4	7.3	257	-25.5
6	16:00	2.15	19.3	7.3	253	-25.3
7	17:00	2.55	19.1	7.4	256	-25.9
8	18:00	3.31	18.9	6.9	250	-25.2
9	19:00	3.76	18.9	6.7	244	-25.1
10	20:00	5.42	17.9	6.0	237	-24.8
11	21:00	7.74	16.9	5.7	226	-24.7
12	22:00	15.23	11.6	5.0	187	-23.9
13	23:00	14.28	11.9	4.3	190	-23.9
14	0:00	8.29	15.2	5.0	222	-24.9
15	1:00	5.37	17.3	5.0	231	-25.4
16	2:00	3.89	18.2	5.1	249	-25.5
17	3:00	3.37	17.9	5.3	242	-25.6
18	4:00	3.39	18.6	7.1	262	-25.5
19	5:00	3.39	18.2	6.9	256	-24.9
20	6:00	n/a	n/a	n/a	n/a	-
21	7:00	3.49	19.0	6.3	253	-25.1
22	8:00	3.45	19.1	7.7	291	
23	9:00	n/a	n/a	n/a	n/a	-
24	10:00	n/a	n/a	n/a	n/a	-

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Aug. 26 2015

1	12:00	2.91	13.5	7.8	245	-28.2
2	13:00	2.58	13.4	8.1	220	-
3	14:00	2.74	13.7	7.5	212	-26.3
4	15:00	3.17	13.4	7.3	209	-
5	16:00	4.13	13.1	7.2	206	-25.9
6	17:00	4.36	12.1	6.5	199	-
7	18:00	4.71	12.4	6.7	194	-26.2
8	19:00	5.07	12.0	6.4	195	-
9	20:00	6.22	12.1	6.5	189	-24.9
10	21:00	10.99	10.9	6.4	183	-
11	22:00	9.42	11.0	6.0	186	-25.6
12	23:00	6.67	11.3	5.9	194	-
13	0:00	7.69	13.1	6.9	190	-26.9
14	1:00	5.15	13.4	6.8	192	-
15	2:00	4.16	14.3	7.5	194	-26.1



16	3:00	3.85	14.8	7.3	194	-
17	4:00	4.44	13.0	6.8	191	-25.6
18	5:00	5.61	12.5	6.6	187	-
19	6:00	6.34	12.0	6.3	190	-26.3
20	7:00	8.84	11.3	6.0	182	-
21	8:00	10.01	11.2	6.6	182	-27.8
22	9:00	10.68	11.2	6.0	175	-
23	10:00	11.12	11.1	6.6	174	-25.2
24	11:00	n/a	n/a	n/a	n/a	-

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