Sea Area Monitoring

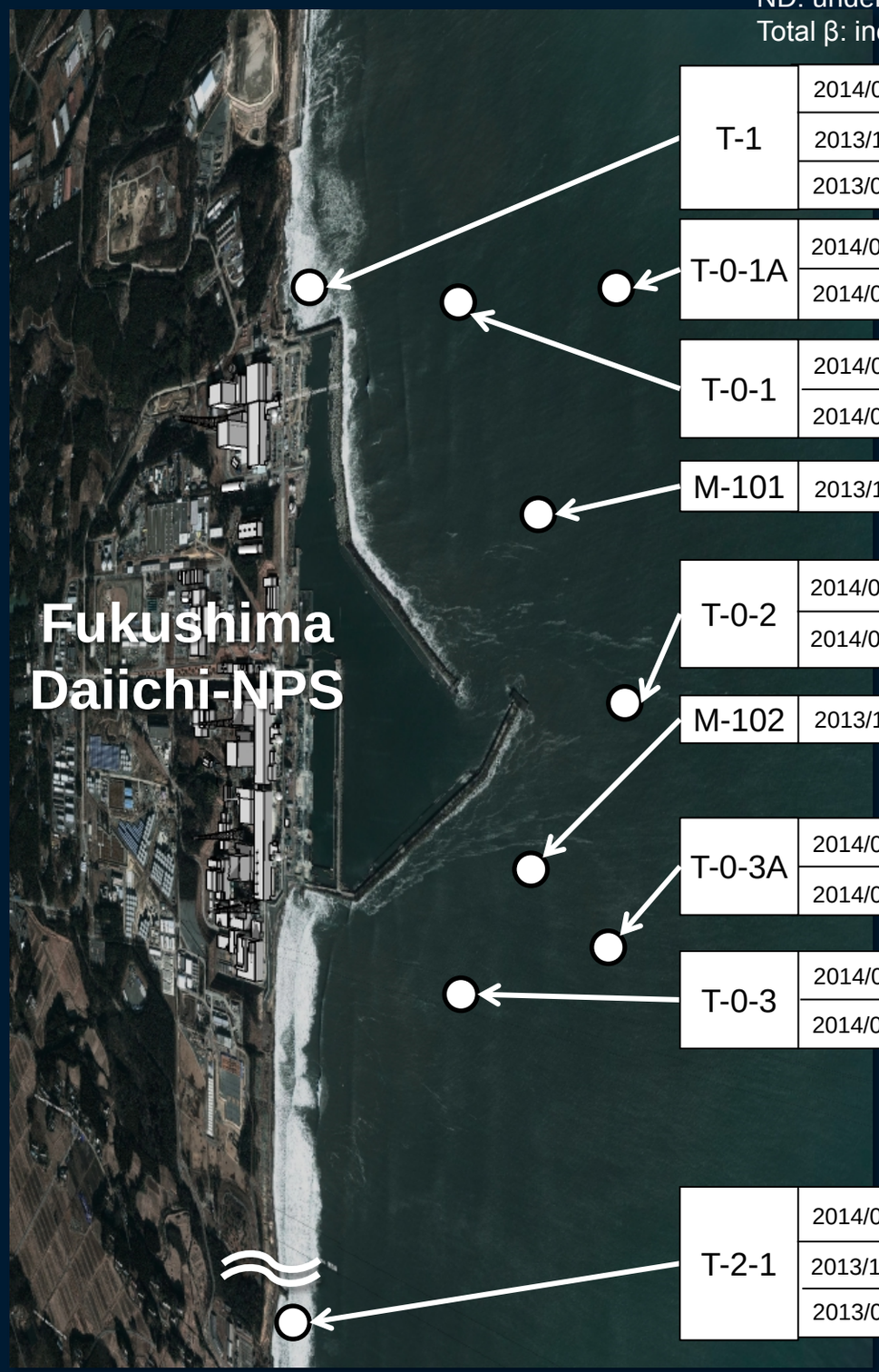
February 12 , 2014 (corrected)

Nuclear Regulation Authority (NRA), Japan

Sea area within 2km radius from the NPS

Sea water radioactivity (Bq/L):
ND: under detection limits; Numbers in parentheses: detection limits
Total β: including K-40

Sampling Point	Sampling Date	Cs-134	Cs-137	total β	H-3	Sr-90	total α	Pu-238	Pu-239+ Pu-240
T-1	2014/01/27	ND(0.75)	ND(0.59)	16	ND(1.6)				
	2013/11/11	ND(1.2)	ND(1.3)	ND(17)	ND(1.9)	0.22	ND(2.5)		
	2013/08/06	ND(1.4)	1.7					ND(6.6×10^{-6})	(7.5 ± 2.1)$\times10^{-6}$
T-0-1A	2014/01/29	ND(0.67)	ND(0.82)	ND(15)	In progress				
	2014/01/22	ND(0.71)	ND(0.68)	ND(16)	ND(2.0)				
T-0-1	2014/01/29	ND(0.98)	ND(0.66)	ND(15)	In progress				
	2014/01/22	ND(0.87)	ND(0.63)	ND(16)	ND(2.0)				
M-101	2013/12/12	0.11	0.28		In progress	In progress			
T-0-2	2014/01/29	ND(0.80)	ND(0.50)	ND(15)	In progress				
	2014/01/22	ND(0.80)	ND(0.71)	ND(16)	ND(2.0)				
M-102	2013/12/13	0.085	0.22		In progress	In progress			
T-0-3A	2014/01/29	ND(0.83)	ND(0.68)	ND(15)	In progress				
	2014/01/22	ND(0.77)	ND(0.64)	ND(16)	ND(2.0)				
T-0-3	2014/01/29	ND(0.76)	ND(0.67)	ND(15)	In Progress				
	2014/01/22	ND(0.70)	ND(0.62)	ND(16)	ND(2.0)				
T-2-1	2014/01/27	ND(0.75)	1.1	9.2	ND(1.6)				
	2013/11/11	ND(1.2)	ND(1.3)	ND(17)	ND(1.9)	0.017	ND(2.5)		
	2013/08/06	ND(1.4)	ND(1.3)	ND(21)				ND(7.6×10^{-6})	(1.1 ± 0.29)$\times10^{-5}$

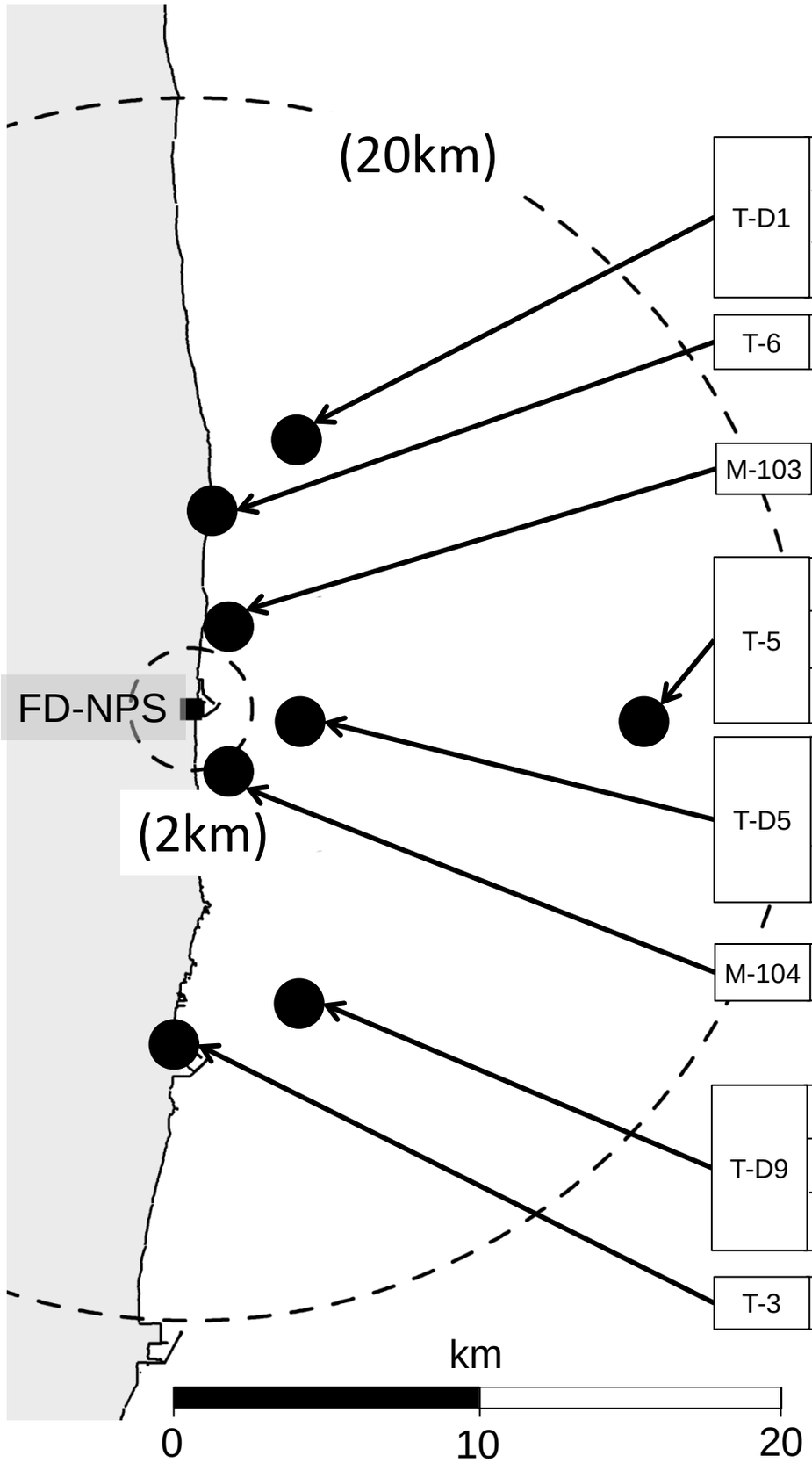


Sea area between 2-20km radius from the NPS (1)

Sampling Point	Sampling Date	Cs-134	Cs-137	total β	H-3	Sr-90	total α	Pu-238	Pu-239+ Pu-240	S / Depth (m) from sea level
T-D1	2013/11/20	0.020	0.039	ND(17)	ND (0.35)					S
	2013/11/07	0.016	0.038	ND(17)	0.66	0.011	ND(1.6)	In progress	In progress	S
	2013/08/06	0.0053	0.011	ND(17)	ND (0.37)	ND(0.01)	ND(1.7)	ND(4.8×10^{-6})	ND(4.7×10^{-6})	S
T-6	2013/11/19	0.041	0.10	ND(17)	ND(0.30)					S
M-103	2013/12/12	0.039	0.10		In progress	In progress				0.5m
T-5	2013/11/29	0.0017	0.0059	ND(17)	ND(0.35)					S
	2013/11/13	0.0019	0.0067	ND(17)	ND(0.30)	ND(0.02)	ND(1.6)	In progress	In progress	S
	2013/08/07	ND(0.0015)	0.0049	ND(17)	ND (0.37)	ND(0.01)	ND(1.7)	ND(5.9×10^{-6})	ND(6.3×10^{-6})	S
T-D5	2013/11/20	0.0061	0.013	ND(17)	ND(0.35)					S
	2013/11/07	0.012	0.035	ND(17)	0.45	0.011	ND(1.6)	In progress	In progress	S
	2013/08/06	0.0057	0.019	ND(17)	ND (0.37)	ND(0.01)	ND(1.7)	ND(6.9×10^{-6})	ND(6.1×10^{-6})	S
M-104	2013/12/13	0.061	0.15		In progress	In progress				0.5m
T-D9	2013/11/29	0.023	0.052	ND(16)	ND (0.35)					S
	2013/11/13	0.0054	0.015	ND(17)	ND (0.30)	ND(0.01)	ND(1.6)	In progress	In progress	S
	2013/08/07	0.0058	0.013	ND(17)	ND (0.37)	ND(0.01)	ND(1.7)	ND(5.2×10^{-6})	ND(5.5×10^{-6})	S
T-3	2013/11/19	0.061	0.15	ND(17)	ND(0.30)					S

S: 2m below sea level

Sea water radioactivity (Bq/L):
ND: under detection limits; Numbers in parentheses: detection limits
Total β: including K-40

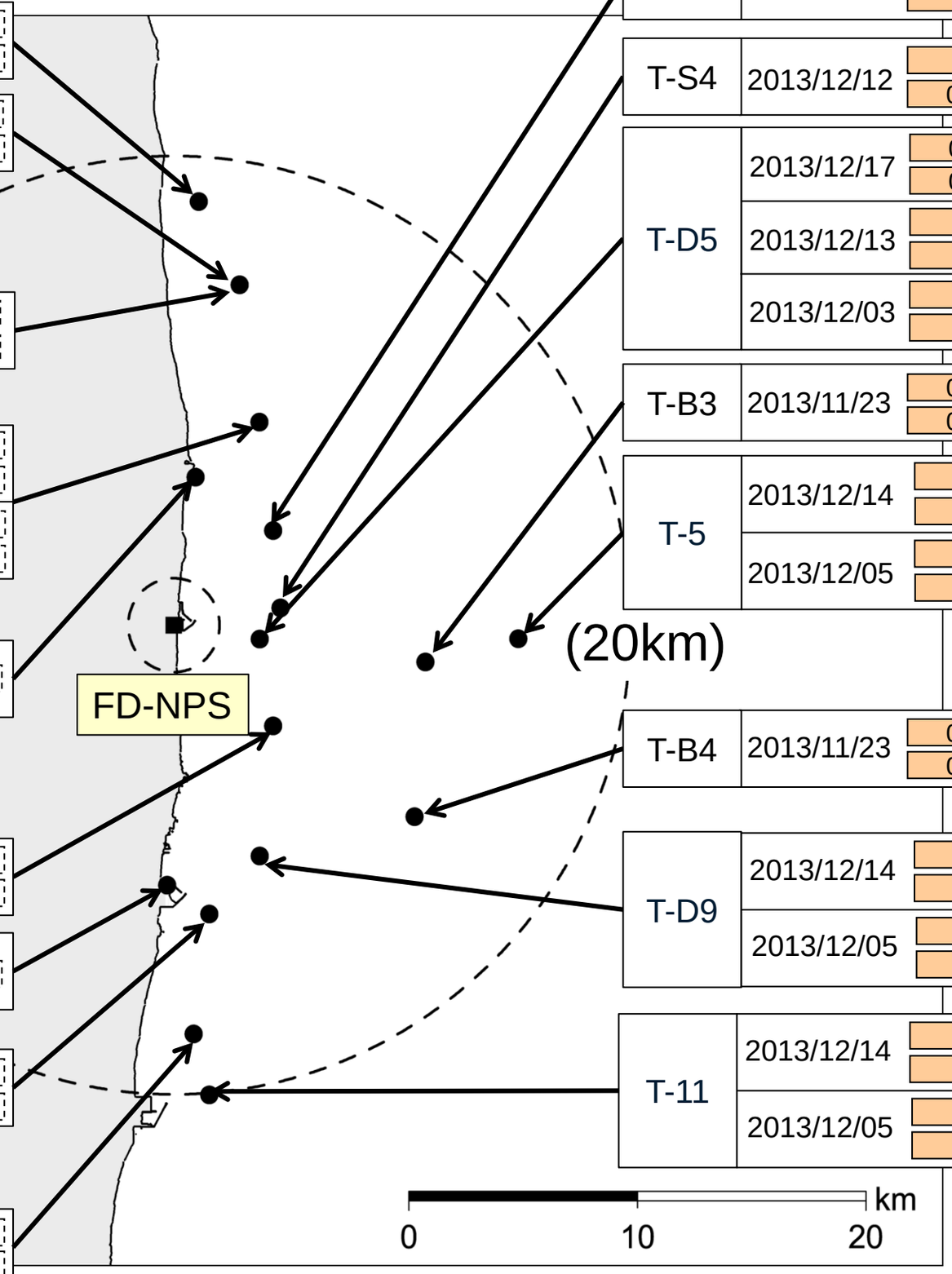


Sea area between 2-20km radius from the NPS (2)

S: 2m below sea level
B: 2-3m above sea bottom

Sea water radioacitivity (Bq/L):
ND: under detection limits; Numbers in parentheses: detection limits

Sampling Point	Sampling Date	Cs-134	Cs-137	S / B
T-S1	2013/11/28	0.011	0.026	S
		0.018	0.045	B
T-14	2013/12/03	0.0057	0.013	S
		0.0060	0.016	B
T-S2	2013/11/28	0.014	0.032	S
		0.011	0.030	B
T-D1	2013/12/17	0.014	0.033	S
		0.0065	0.022	B
	2013/12/03	0.0094	0.020	S
		0.0080	0.019	B
T-6	2013/12/17	0.051	0.13	S
T-S8	2013/12/08	0.0054	0.015	S
		0.0047	0.013	B
T-3	2013/12/17	0.060	0.13	S
T-S7	2013/12/01	0.032	0.074	S
		0.028	0.064	B
T-S5	2013/12/01	0.019	0.041	S
		0.017	0.042	B
T-S3	2013/12/12	0.020	0.053	S
		0.020	0.051	B
T-S4	2013/12/12	0.013	0.031	S
		0.0080	0.022	B
T-D5	2013/12/17	0.0064	0.018	S
		0.0077	0.017	B
	2013/12/13	0.032	0.078	S
		0.036	0.087	B
	2013/12/03	0.010	0.021	S
		0.012	0.026	B
T-B3	2013/11/23	0.0058	0.016	S
		0.0037	0.0083	B
T-5	2013/12/14	0.0015	0.0053	S
		0.0016	0.0040	B
	2013/12/05	0.0020	0.0051	S
		0.0030	0.0075	B
T-B4	2013/11/23	0.0014	0.0048	S
		0.0020	0.0048	B
T-D9	2013/12/14	0.017	0.035	S
		0.015	0.038	B
	2013/12/05	0.026	0.066	S
		0.021	0.048	B
T-11	2013/12/14	0.017	0.037	S
		0.014	0.031	B
	2013/12/05	0.029	0.064	S
		0.023	0.054	B

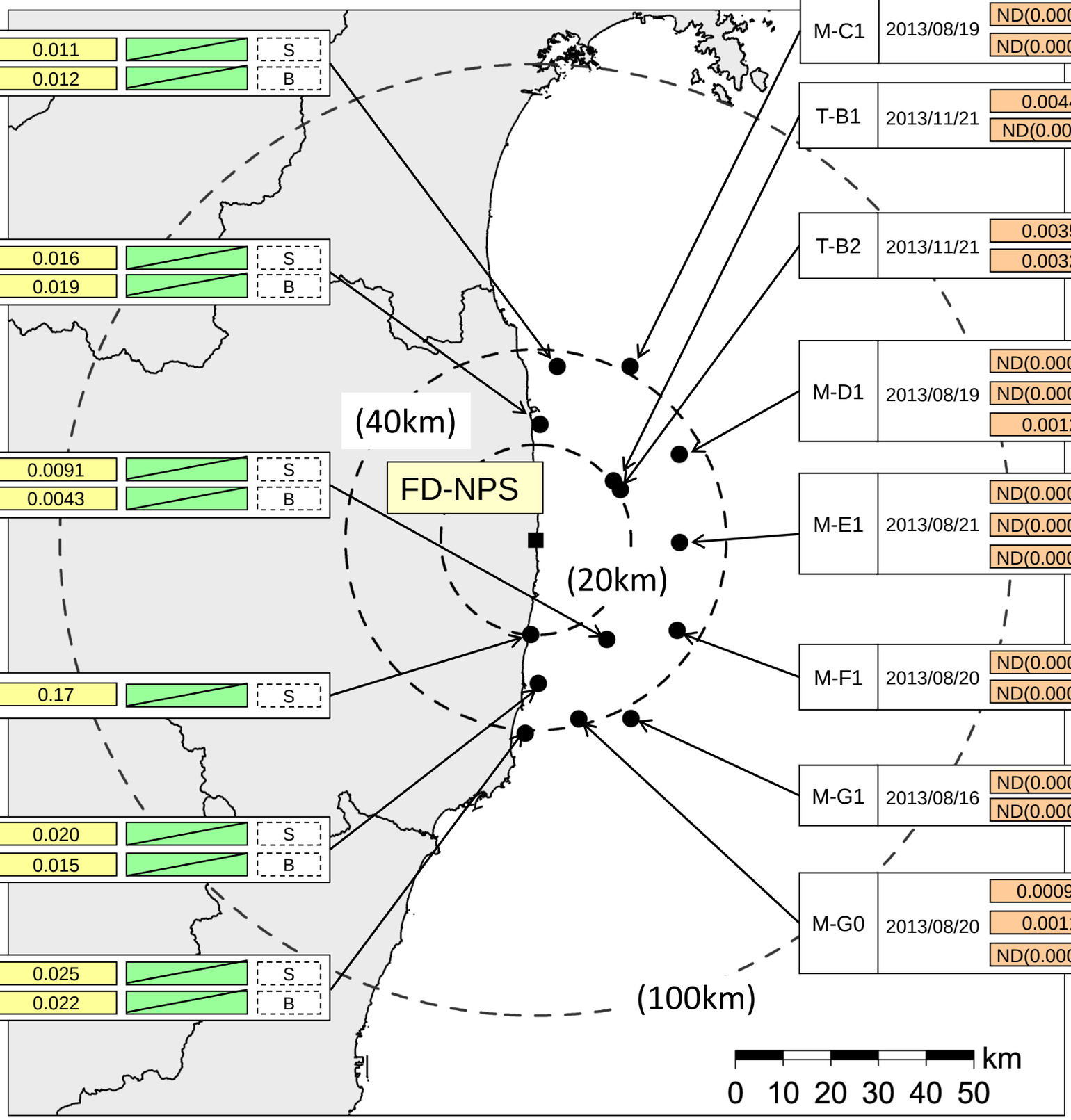


Sea area between 20-100km radius from the NPS(1)

Sampling Point	Sampling Date	Cs-134	Cs-137	Sr-90	S/B / Depth (m) from sea level

S: 2m below sea level
B: 2-3m above sea bottom

Sea water radioacitivity (Bq/L):
ND: under detection limits; Numbers in parentheses: detection limits



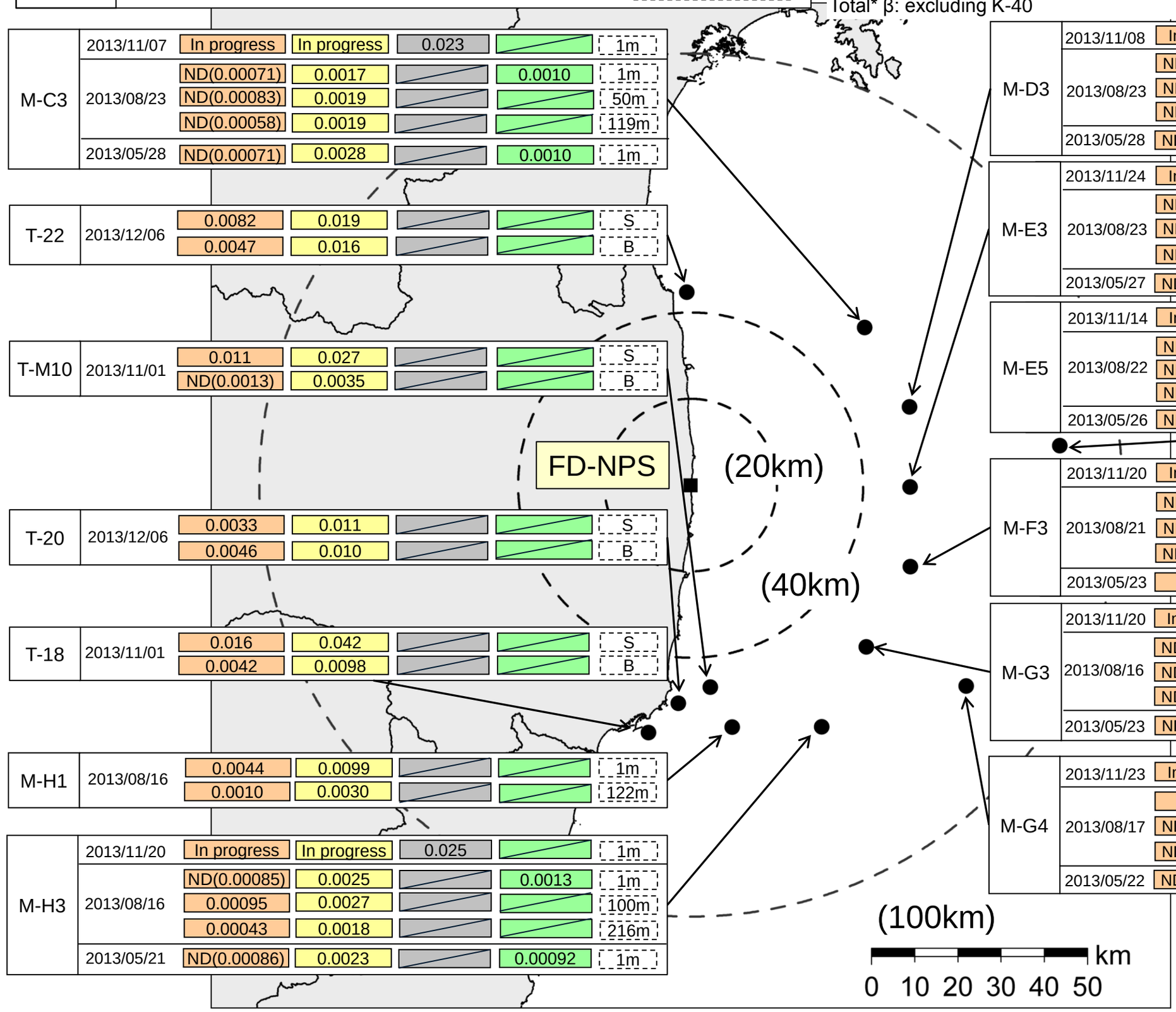
Point	Date	Cs-134	Cs-137	Sr-90	S/B
T-MA	2013/12/06	0.0039	0.011		S
		0.0054	0.012		B
T-13-1	2013/12/06	0.0061	0.016		S
		0.0074	0.019		B
T-7	2013/11/01	0.0031	0.0091		S
		0.0023	0.0043		B
T-4	2013/12/17	0.063	0.17		S
T-12	2013/12/06	0.0081	0.020		S
		0.0056	0.015		B
T-17-1	2013/12/06	0.011	0.025		S
		0.0079	0.022		B
M-C1	2013/08/19	ND(0.00055)	0.0018		1m
		ND(0.00098)	0.0022		46m
T-B1	2013/11/21	0.0044	0.012		S
		ND(0.0014)	0.0042		B
T-B2	2013/11/21	0.0035	0.011		S
		0.0032	0.0090		B
M-D1	2013/08/19	ND(0.00099)	0.0018		1m
		ND(0.00092)	0.0016		50m
		0.0012	0.0028		112m
M-E1	2013/08/21	ND(0.00054)	0.0018		1m
		ND(0.00054)	0.0014		50m
		ND(0.00066)	0.0019		125m
M-F1	2013/08/20	ND(0.00062)	0.0018		1m
		ND(0.00072)	0.0028		136m
M-G1	2013/08/16	ND(0.00058)	0.0024		1m
		ND(0.00067)	0.0017		125m
M-G0	2013/08/20	0.00099	0.0033		1m
		0.0011	0.0039		50m
		ND(0.00074)	0.0028		97m

Sea area between 20-100km radius from the NPS(2)

S: 2m below sea level
B: 2-3m above sea bottom

Sea water radioacitivity (Bq/L):
ND: under detection limits; Numbers in parentheses: detection limits
Total* β: excluding K-40

Sampling Point	Sampling Date	Cs-134	Cs-137	Total* β	Sr-90	S/B / Depth (m) from sea level
M-C3	2013/11/07	In progress	In progress	0.023		1m
	2013/08/23	ND(0.00071)	0.0017		0.0010	1m
		ND(0.00083)	0.0019			50m
		ND(0.00058)	0.0019			119m
	2013/05/28	ND(0.00071)	0.0028		0.0010	1m
T-22	2013/12/06	0.0082	0.019			S
		0.0047	0.016			B
T-M10	2013/11/01	0.011	0.027			S
		ND(0.0013)	0.0035			B
T-20	2013/12/06	0.0033	0.011			S
		0.0046	0.010			B
T-18	2013/11/01	0.016	0.042			S
		0.0042	0.0098			B
M-H1	2013/08/16	0.0044	0.0099			1m
		0.0010	0.0030			122m
M-H3	2013/11/20	In progress	In progress	0.025		1m
	2013/08/16	ND(0.00085)	0.0025		0.0013	1m
		0.00095	0.0027			100m
		0.00043	0.0018			216m
	2013/05/21	ND(0.00086)	0.0023		0.00092	1m
M-D3	2013/11/08	In progress	In progress	0.031		1m
	2013/08/23	ND(0.00095)	0.0016		0.0011	1m
		ND(0.00092)	0.0020			100m
		ND(0.00099)	0.0016			216m
	2013/05/28	ND(0.00092)	0.0018		0.00083	1m
M-E3	2013/11/24	In progress	In progress	0.028		1m
	2013/08/23	ND(0.00077)	0.0020		0.0011	1m
		ND(0.00066)	0.0013			100m
		ND(0.00071)	0.0019			221m
	2013/05/27	ND(0.00054)	0.0015		0.0011	1m
M-E5	2013/11/14	In progress	In progress	0.024		1m
	2013/08/22	ND(0.00075)	0.0019		0.00099	1m
		ND(0.00049)	0.0016			100m
		ND(0.00065)	0.00080			523m
	2013/05/26	ND(0.00058)	0.0016		0.0011	1m
M-F3	2013/11/20	In progress	In progress	0.036		1m
	2013/08/21	ND(0.00079)	0.0022		0.0011	1m
		ND(0.00060)	0.0016			100m
		ND(0.00086)	0.0019			226m
	2013/05/23	0.00096	0.0036		0.0011	1m
M-G3	2013/11/20	In progress	In progress	0.029		1m
	2013/08/16	ND(0.00056)	0.0020		0.0012	1m
		ND(0.00062)	0.0016			100m
		ND(0.00069)	0.0021			197m
	2013/05/23	ND(0.00097)	0.0020		0.00090	1m
M-G4	2013/11/23	In progress	In progress	0.033		1m
	2013/08/17	0.00044	0.0018		0.00092	1m
		ND(0.00074)	0.0019			100m
		ND(0.00071)	ND(0.00059)			671m
	2013/05/22	ND(0.00066)	0.0020		0.0011	1m



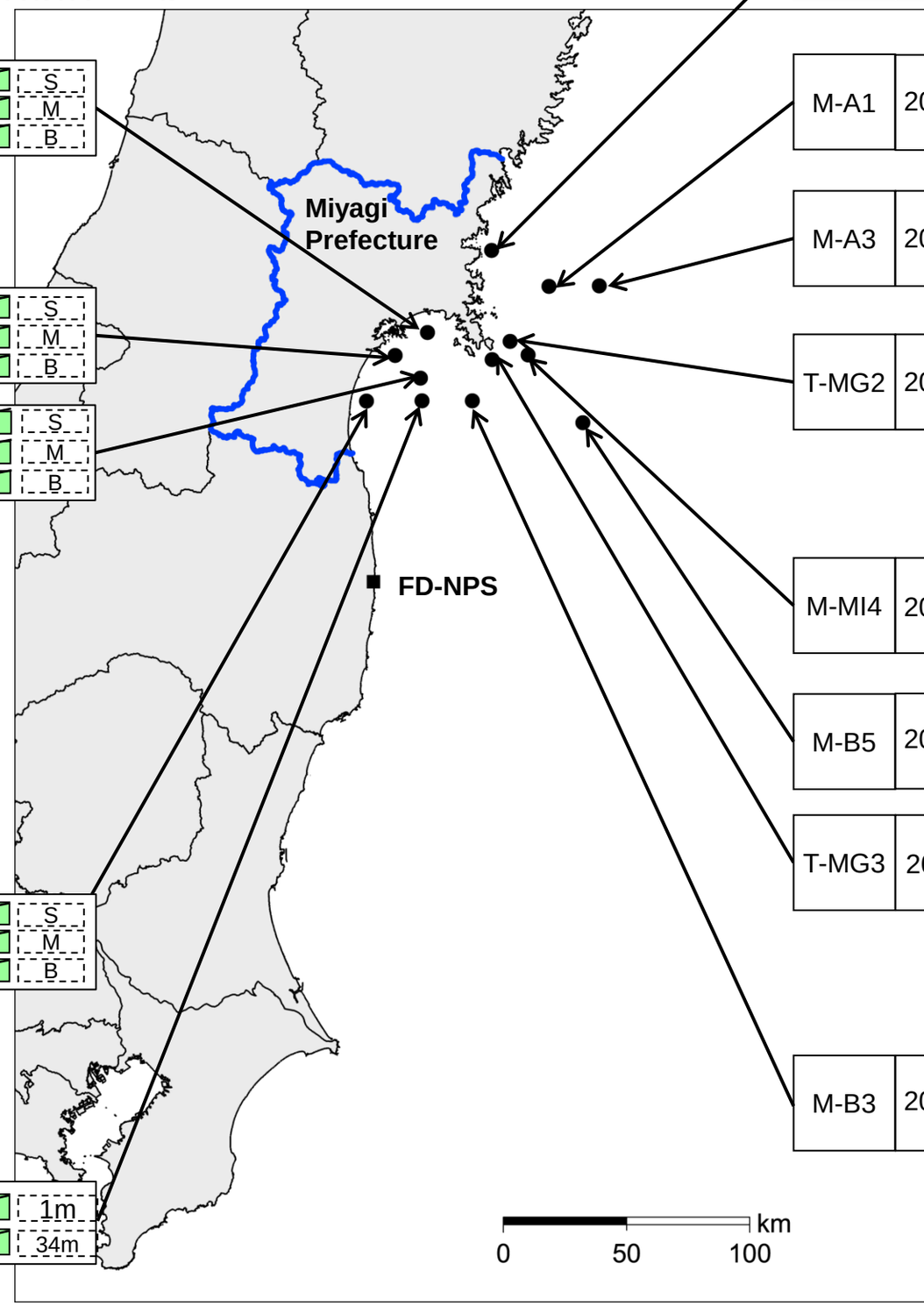
Sea area along and off the coast of Miyagi Prefecture

Sampling Point	Sampling Date	Cs-134	Cs-137	Sr-90	S/M/B / Depth (m) from sea level

S: 2m below sea level
M: between 2m below sea level and 2-3m above sea bottom
B: 2-3m above sea bottom

Sea water radioactivity (Bq/L):
ND: under detection limits; Numbers in parentheses: detection limits

Sampling Point	Sampling Date	Cs-134	Cs-137	Sr-90	S/M/B / Depth (m)
T-MG1	2013/12/03	0.0030	0.0084		S
		0.0034	0.0083		M
		0.0026	0.0073		B
T-MG4	2013/12/03	0.0026	0.0077		S
		0.0021	0.0083		M
		0.0037	0.0082		B
T-MG5	2013/12/03	0.0018	0.0047		S
		ND(0.0015)	0.0050		M
		0.0017	0.0043		B
T-MG6	2013/12/03	ND(0.0015)	0.0078		S
		0.0030	0.0073		M
		0.0030	0.0081		B
M-B1	2013/08/19	0.0021	0.0059		1m
		0.0014	0.0039		34m
T-MG0	2013/12/03	ND (0.0015)	0.0017		S
		ND (0.0015)	0.0023		M
		ND (0.0015)	0.0018		B
M-A1	2013/08/25	ND (0.00073)	0.0016		1m
		ND (0.00088)	0.0022		100m
		ND (0.00063)	0.0016		193m
M-A3	2013/08/25	ND (0.00074)	0.0018		1m
		ND (0.00065)	0.0017		100m
		ND (0.00065)	0.00064		470m
T-MG2	2013/12/03	ND (0.0015)	0.0019		S
		ND (0.0015)	0.0020		M
		ND (0.0015)	0.0025		B
M-MI4	2013/08/24	ND (0.00069)	0.0016		1m
		ND (0.00055)	0.0017		100m
		ND (0.00095)	0.0019		140m
M-B5	2013/08/26	ND (0.00064)	0.0019		1m
		ND (0.00081)	0.0019		100m
		ND (0.00065)	0.0012		345m
T-MG3	2013/12/03	ND (0.0015)	0.0018		S
		ND (0.0015)	0.0020		M
		ND (0.0015)	0.0021		B
M-B3	2013/08/24	ND (0.00072)	0.0033		1m
		ND (0.00054)	0.0019		50m
		ND (0.00087)	0.0023		108m



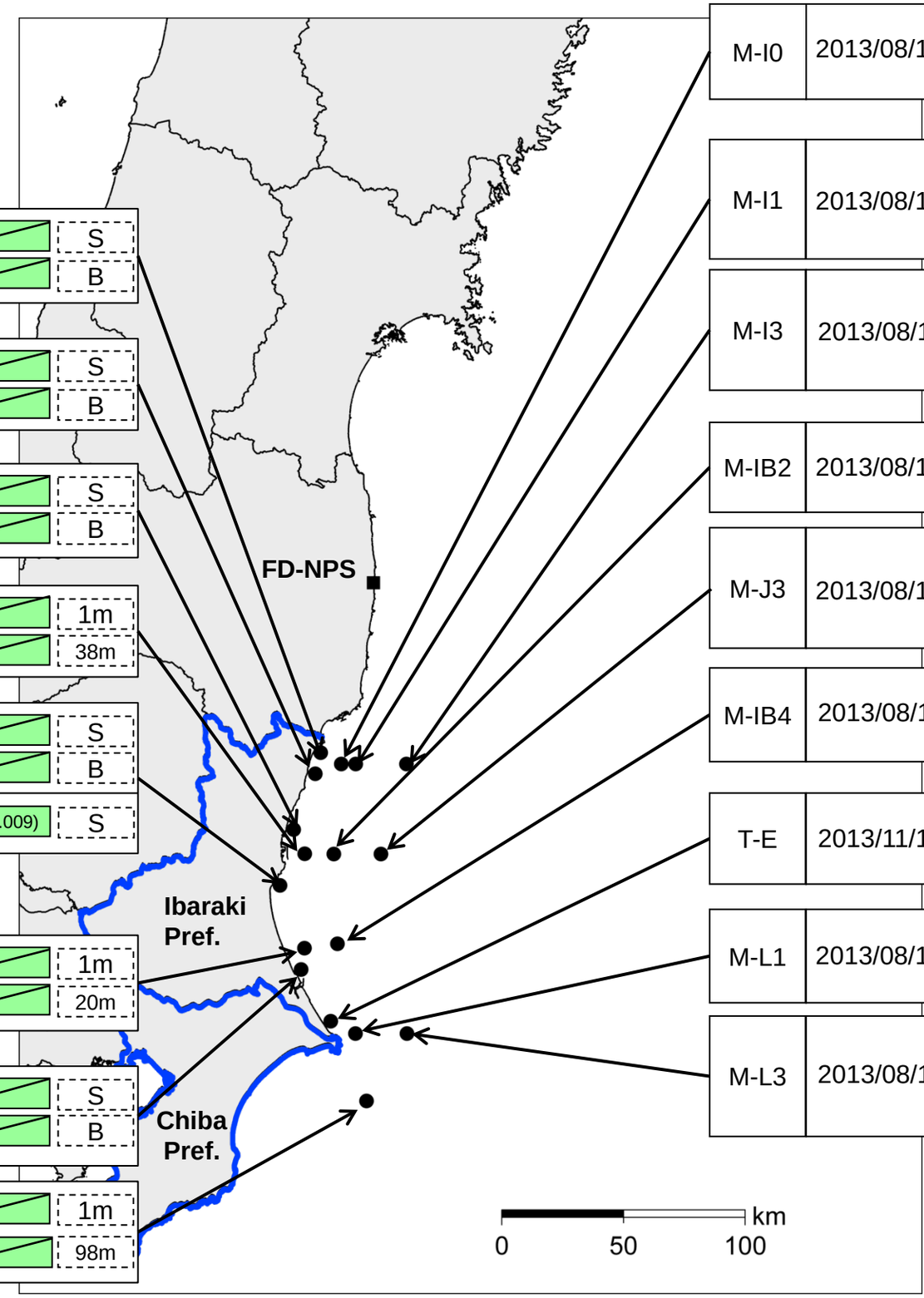
Sea area along and off the coast of Ibaraki Pref. and Chiba Pref.

Sampling Point	Sampling Date	Cs-134	Cs-137	Sr-90	S/B	Depth (m) from sea level

S: 2m below sea level
B: 2-3m above sea bottom

Sea water radioactivity (Bq/L):
ND: under detection limits; Numbers in parentheses: detection limits

Sampling Point	Sampling Date	Cs-134	Cs-137	Sr-90	S/B	Depth (m) from sea level
T-Z	2013/11/11	ND (1.1)	ND(1.3)		S	
		ND (1.1)	ND(1.3)		B	
T-A	2013/11/11	ND (1.1)	ND(1.3)		S	
		ND(1.1)	ND(1.3)		B	
T-B	2013/11/13	ND (1.1)	ND(1.3)		S	
		ND (1.1)	ND(1.3)		B	
M-J1	2013/08/14	0.0028	0.0068			1m
		0.0028	0.0073			38m
T-C	2013/11/13	ND (1.1)	ND(1.3)		S	
		ND (1.1)	ND(1.3)		B	
	2013/09/11	ND (1.2)	ND(1.3)	ND(0.009)	S	
M-K1	2013/08/12	0.0013	0.0033			1m
		0.00082	0.0040			20m
T-D	2013/11/12	ND (1.1)	ND(1.3)		S	
		ND(1.1)	ND(1.3)		B	
M-M1	2013/08/11	0.0013	0.0043			1m
		0.0013	0.0035			98m
M-I0	2013/08/14	ND (0.00060)	0.0022			1m
		0.0025	0.0057			57m
M-I1	2013/08/15	ND (0.00063)	0.0026			1m
		ND (0.00068)	0.0015			50m
		0.00077	0.0029			87m
M-I3	2013/08/15	ND (0.00057)	0.0021			1m
		ND (0.00063)	0.0019			100m
		ND (0.00050)	0.0020			172m
M-IB2	2013/08/13	0.0019	0.0046			1m
		0.00082	0.0039			104m
M-J3	2013/08/12	ND (0.00056)	0.0017			1m
		0.0011	0.0033			100m
		ND (0.00084)	0.0013			548m
M-IB4	2013/08/12	0.00072	0.0022			1m
		0.0014	0.0052			106m
T-E	2013/11/12	ND (1.1)	ND(1.3)		S	
		ND (1.1)	ND(1.3)		B	
M-L1	2013/08/11	0.0015	0.0049			1m
		ND (0.00071)	0.0026			32m
M-L3	2013/08/13	ND (0.00069)	0.0017			1m
		ND (0.00072)	0.0030			100m
		0.00079	0.0037			157m

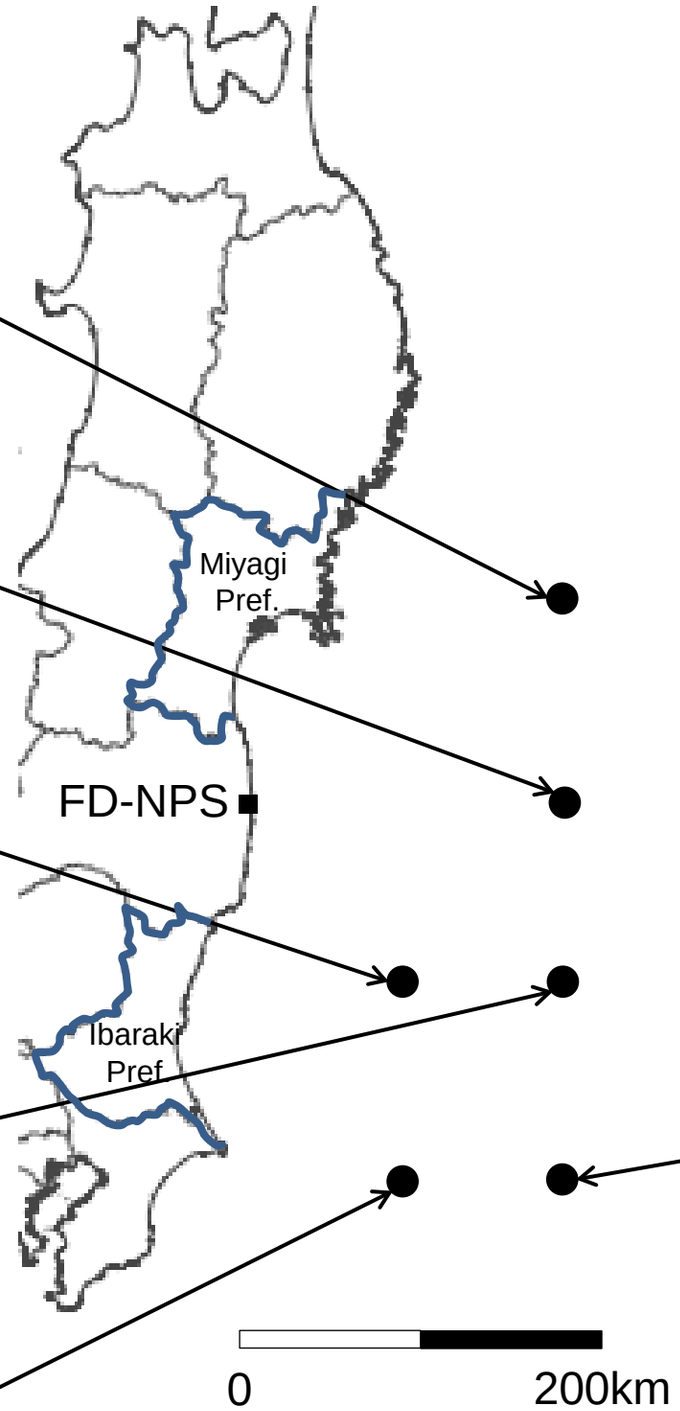


Open sea off the coast of Eastern Japan

Sampling Point	Sampling Date	Cs-134	Cs-137	Depth (m) from sea level

Sea water radioactivity (Bq/L):
ND: under detection limits; Numbers in parentheses: detection limits

M-10	2013/05/19	0.0011	0.0029	1m
		ND (0.00068)	0.0021	100m
		ND (0.00064)	0.0022	200m
		ND (0.00065)	0.0019	300m
		ND (0.00061)	0.00091	500m
M-14	2013/05/18	ND (0.00079)	0.0026	1m
		ND (0.00074)	0.0021	100m
		ND (0.00074)	0.0015	200m
		ND (0.00066)	0.0015	300m
		ND (0.00068)	0.00090	500m
M-19	2013/05/17	0.0010	0.0028	1m
		ND (0.00061)	0.0014	100m
		ND (0.00059)	0.0017	200m
		ND (0.00069)	0.0014	300m
		ND (0.00059)	0.0010	500m
M-20	2013/05/18	ND (0.00082)	0.0025	1m
		ND (0.00095)	0.0019	100m
		ND (0.00092)	0.0018	200m
		ND (0.00096)	0.0014	300m
		ND (0.00084)	0.00080	500m
M-25	2013/05/14	ND (0.0010)	0.0016	1m
		ND (0.00092)	0.0022	100m
		0.0020	0.0044	200m
		ND (0.00094)	0.0031	300m
		ND (0.00087)	0.0012	500m



M-11	2013/05/16	ND (0.00096)	0.0025	1m
		ND (0.00095)	0.0023	100m
		0.0010	0.0018	200m
		ND (0.00092)	0.00095	300m
		ND (0.00097)	0.00068	500m
M-15	2013/05/16	ND (0.00095)	0.0023	1m
		ND (0.00088)	0.0018	100m
		ND (0.00097)	0.0020	200m
		ND (0.00096)	0.0016	300m
		ND (0.00085)	0.00084	500m
M-21	2013/05/15	ND (0.00068)	0.0019	1m
		ND (0.00069)	0.0026	100m
		0.0026	0.0056	200m
		0.0013	0.0043	300m
		ND (0.00064)	0.0015	500m
M-26	2013/05/14	ND (0.00069)	0.0020	1m
		ND (0.00065)	0.0025	100m
		0.0011	0.0036	200m
		0.0011	0.0034	300m
		ND (0.00085)	0.0015	500m
M-27	2013/05/15	ND (0.00094)	0.0022	1m
		ND (0.00096)	0.0030	100m
		0.0012	0.0044	200m
		ND (0.0010)	0.0027	300m
		ND (0.00089)	0.0021	500m