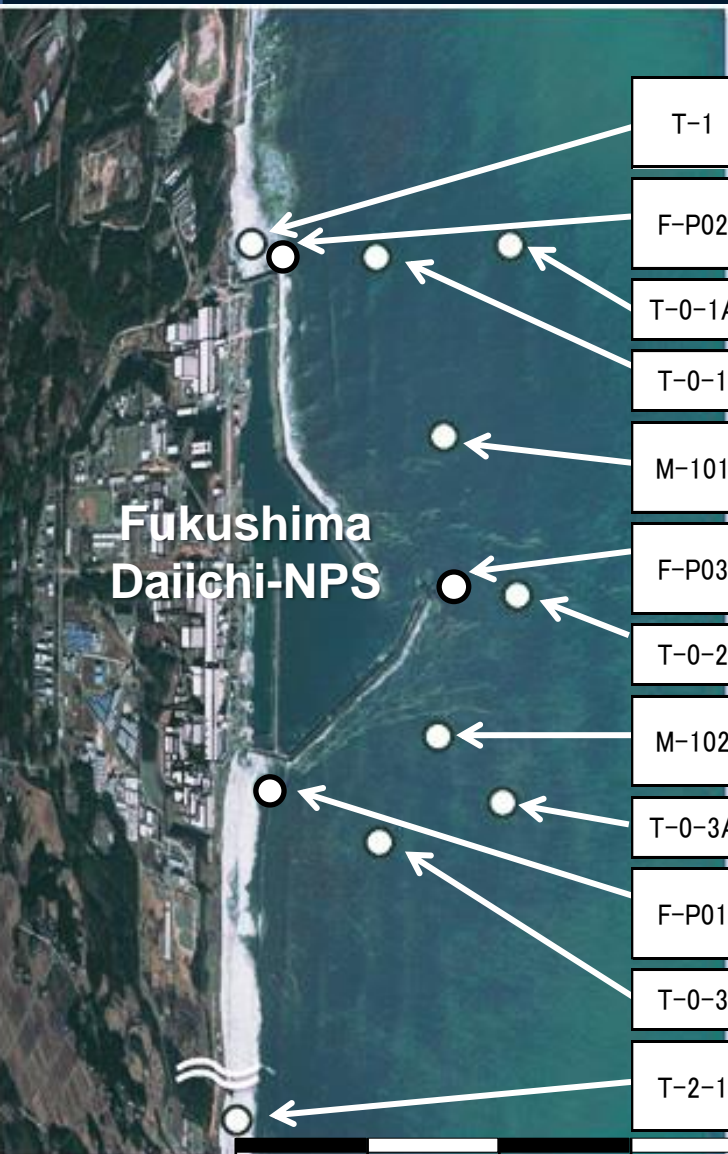


Sea Area Monitoring

November 17, 2015

Nuclear Regulation Authority (NRA), Japan

Sea area within 2km radius from the NPS



Fukushima Daiichi-NPS

Sampling point	Sampling Date	Cs-134	Cs-137	total β	H-3	Sr-90	total α	Pu-238	Pu-239+240
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Sea water radioactivity (Bq/L):
 ND: under detection limits; Numbers in parentheses: detection limits
 *1: Total β : including K-40 *2: Total β : excluding K-40

T-1	2015/11/2	ND(0.83)	ND(0.59)	14 ^{*1}	3.5				
	2015/9/7	ND(0.70)	0.86	10 ^{*1}	2.0	0.028	ND(1.9)		
	2015/4/8	ND(0.55)	ND(0.64)					ND(5.5×10^{-6})	ND(6.1×10^{-6})
F-P02	2015/9/14	0.21	1.0	0.03 ^{*2}	ND(0.41)	In progress		In progress	In progress
	2015/8/17	ND(0.088)	0.12	0.05 ^{*2}	ND(0.44)	0.10		In progress	In progress
	2015/3/3	ND(0.072)	0.094	0.06 ^{*2}	ND(0.43)	0.041		ND(7×10^{-6})	1.1×10^{-5}
T-0-1A	2015/11/2	ND(0.56)	ND(0.64)	ND(17) ^{*1}	In progress				
	2015/10/26	ND(0.68)	ND(0.71)	ND(17) ^{*1}	ND(1.8)				
T-0-1	2015/11/2	ND(0.85)	ND(0.71)	ND(17) ^{*1}	In progress				
	2015/10/26	ND(0.54)	ND(0.63)	ND(17) ^{*1}	ND(1.8)				
M-101	2015/9/2	0.14	0.60		1.9	In progress			
	2015/8/5	0.0074	0.030		0.13	In progress			
	2015/7/8	0.0058	0.024		0.12	0.0096			
F-P03	2015/9/14	ND(0.051)	0.087	0.03 ^{*2}	ND(0.40)	In progress		In progress	In progress
	2015/8/17	0.13	0.48	0.19 ^{*2}	1.1	0.46		In progress	In progress
	2015/3/3	0.079	0.23	0.14 ^{*2}	1.4	0.23		ND(6×10^{-6})	ND(8×10^{-6})
T-0-2	2015/11/2	ND(0.66)	ND(0.74)	ND(17) ^{*1}	In progress				
	2015/10/26	ND(0.56)	ND(0.64)	ND(17) ^{*1}	ND(1.8)				
M-102	2015/9/3	0.0054	0.022		0.077	In progress			
	2015/8/6	0.0072	0.032		0.14	In progress			
	2015/7/9	0.015	0.060		0.16	0.023			
T-0-3A	2015/11/2	ND(0.65)	ND(0.73)	ND(17) ^{*1}	In progress				
	2015/10/26	ND(0.74)	ND(0.74)	ND(17) ^{*1}	ND(1.8)				
F-P01	2015/9/14	ND(0.053)	0.15	0.05 ^{*2}	0.55	In progress		In progress	In progress
	2015/8/17	ND(0.071)	0.12	0.04 ^{*2}	ND(0.42)	0.037		In progress	In progress
	2015/3/3	ND(0.068)	0.075	0.04 ^{*2}	ND(0.43)	0.004		ND(6×10^{-6})	ND(6×10^{-6})
T-0-3	2015/11/2	ND(0.74)	ND(0.68)	ND(17) ^{*1}	In progress				
	2015/10/26	ND(0.73)	ND(0.76)	ND(17) ^{*1}	ND(1.8)				
T-2-1	2015/11/2	ND(0.57)	ND(0.65)	11 ^{*1}	2.7				
	2015/9/7	ND(0.62)	ND(0.65)	11 ^{*1}	ND(1.4)	0.026	ND(1.9)		
	2015/4/8	ND(0.66)	ND(0.60)	8.9 ^{*1}				ND(6.9×10^{-6})	(9.7 ± 2.4) $\times 10^{-6}$

0 0.5 1km

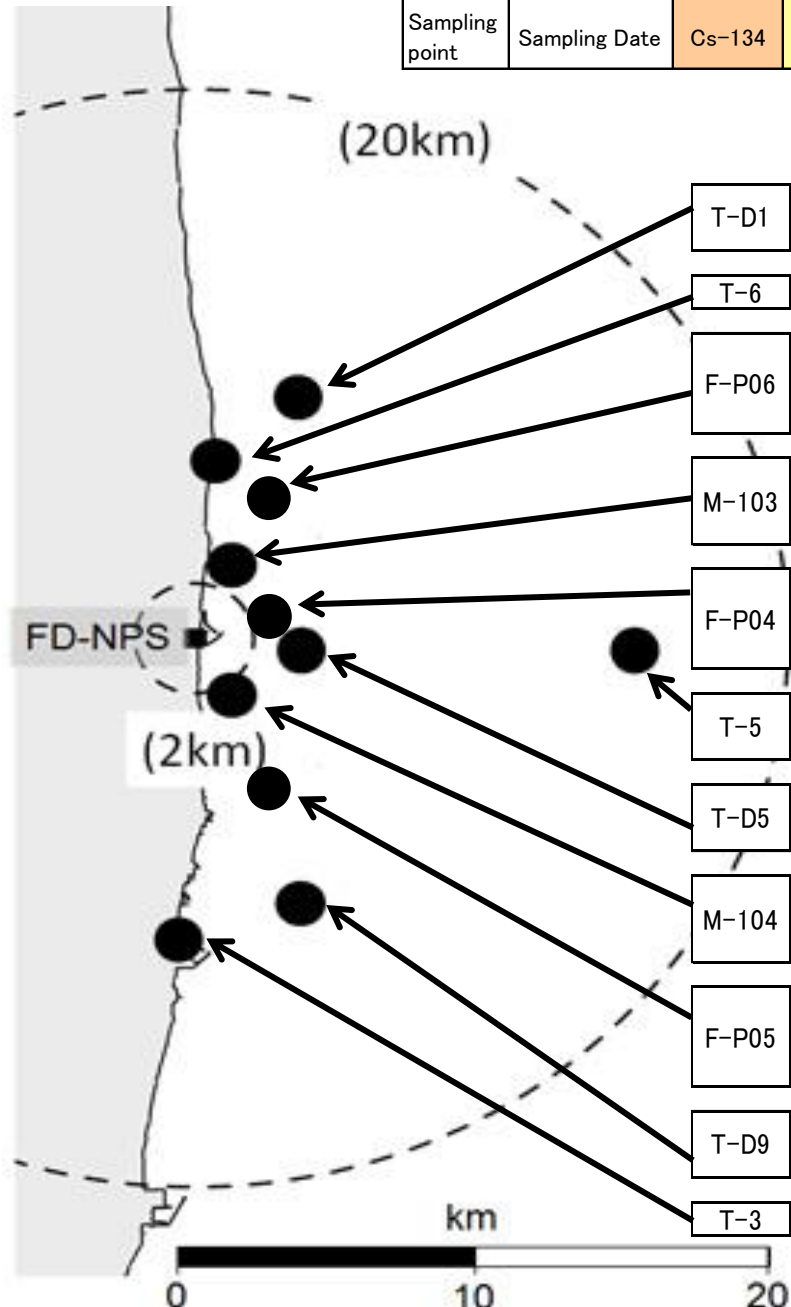
Sea area between 2-20km radius from the NPS (1)

Sampling point	Sampling Date	Cs-134	Cs-137	total β	H-3	Sr-90	total α	Pu-238	Pu-239+240	S	S:2m below sea level
										Depth(m) from sea level	

Sea water radioactivity (Bq/L):

ND: under detection limits; Numbers in parentheses: detection limits

*1: Total β : including K-40 *2: Total β : excluding K-40



T-D1	2015/10/5	0.0029	0.010	ND(16) ^{*1}	ND(0.36)	ND(0.0066)	ND(1.6)			S
	2015/4/8	0.0017	0.0048	ND(15) ^{*1}	0.49	ND(0.0099)	ND(2.0)	ND(7.0 × 10 ⁻⁶)	ND(6.8 × 10 ⁻⁶)	S
T-6	2015/9/15	0.021	0.074	ND(13) ^{*1}	ND(0.34)					S
F-P06	2015/9/14	ND(0.050)	0.082	0.02 ^{*2}	0.47	In progress		In progress	In progress	S
	2015/8/17	ND(0.070)	ND(0.066)	0.02 ^{*2}	ND(0.41)	0.001		In progress	In progress	S
	2015/3/3	ND(0.059)	ND(0.057)	0.03 ^{*2}	ND(0.43)	0.004		ND(6 × 10 ⁻⁶)	6 × 10 ⁻⁶	S
M-103	2015/9/2	0.0068	0.030		0.10	In progress				0.5m
	2015/8/5	0.0038	0.018		0.082	In progress				0.5m
	2015/7/8	0.0060	0.024		0.14	0.010				0.5m
F-P04	2015/9/14	ND(0.054)	0.052	0.02 ^{*2}	ND(0.40)	In progress		In progress	In progress	S
	2015/8/17	ND(0.090)	ND(0.066)	0.02 ^{*2}	ND(0.42)	0.001		In progress	In progress	S
	2015/3/3	ND(0.064)	ND(0.052)	0.03 ^{*2}	0.48	0.002		ND(7 × 10 ⁻⁶)	ND(8 × 10 ⁻⁶)	S
T-5	2015/10/6	ND(0.0015)	0.0042	ND(16) ^{*1}	ND(0.36)	ND(0.0067)	ND(1.9)			S
	2015/4/9	ND(0.0014)	0.0021	ND(17) ^{*1}	ND(0.32)	ND(0.011)	ND(1.6)	ND(5.7 × 10 ⁻⁶)	ND(5.6 × 10 ⁻⁶)	S
T-D5	2015/10/5	ND(0.0016)	0.0085	ND(16) ^{*1}	ND(0.36)	ND(0.0062)	ND(1.6)			S
	2015/4/8	ND(0.0016)	0.0062	ND(15) ^{*1}	0.70	ND(0.011)	ND(2.0)	ND(6.3 × 10 ⁻⁶)	ND(6.0 × 10 ⁻⁶)	S
M-104	2015/9/3	0.0062	0.030		0.14	In progress				0.5m
	2015/8/6	0.0072	0.031		0.12	In progress				0.5m
	2015/7/9	0.012	0.050		0.17	0.028				0.5m
F-P05	2015/9/14	0.067	0.31	0.03 ^{*2}	ND(0.39)	In progress		In progress	In progress	S
	2015/8/17	ND(0.080)	ND(0.070)	0.02 ^{*2}	ND(0.42)	0.002		In progress	In progress	S
	2015/3/3	ND(0.096)	ND(0.053)	0.04 ^{*2}	ND(0.43)	0.004		ND(6 × 10 ⁻⁶)	8 × 10 ⁻⁶	S
T-D9	2015/10/6	0.0026	0.013	ND(16) ^{*1}	ND(0.36)	ND(0.0068)	ND(1.9)			S
	2015/4/9	ND(0.0017)	0.0043	ND(17) ^{*1}	ND(0.32)	ND(0.0092)	ND(1.6)	ND(6.7 × 10 ⁻⁶)	ND(6.5 × 10 ⁻⁶)	S
T-3	2015/9/15	0.026	0.094	ND(17) ^{*1}	ND(0.33)					S

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

Sampling point	Sampling Date	Cs-134	Cs-137	S/B	S:2m below sea level B:2-3m above sea bottom
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Sea water radioactivity (Bq/L):

ND: under detection limits; Numbers in parentheses: detection limits

T-S1	2015/9/16	0.0057	0.023	S
		0.0042	0.018	B

T-14	2015/10/5	0.0013	0.0094	S
		0.0022	0.011	B

T-D1	2015/10/5	0.0029	0.010	S
		0.0026	0.0098	B

T-6	2015/10/13	0.021	0.096	S
	2015/10/6	0.010	0.049	S

T-S8	2015/9/13	0.033	0.14	S
		0.0046	0.018	B

T-3	2015/10/13	0.022	0.11	S
	2015/10/6	0.012	0.056	S

T-S7	2015/9/2	0.035	0.14	S
		ND(0.0014)	0.0069	B

T-S5	2015/9/2	0.0043	0.018	S
		0.0027	0.011	B

T-S3	2015/9/17	0.015	0.059	S
		0.0014	0.0060	B

T-S4	2015/9/17	0.013	0.054	S
		0.0026	0.011	B

T-D5	2015/10/5	ND(0.0016)	0.0085	S
		0.0023	0.0097	B

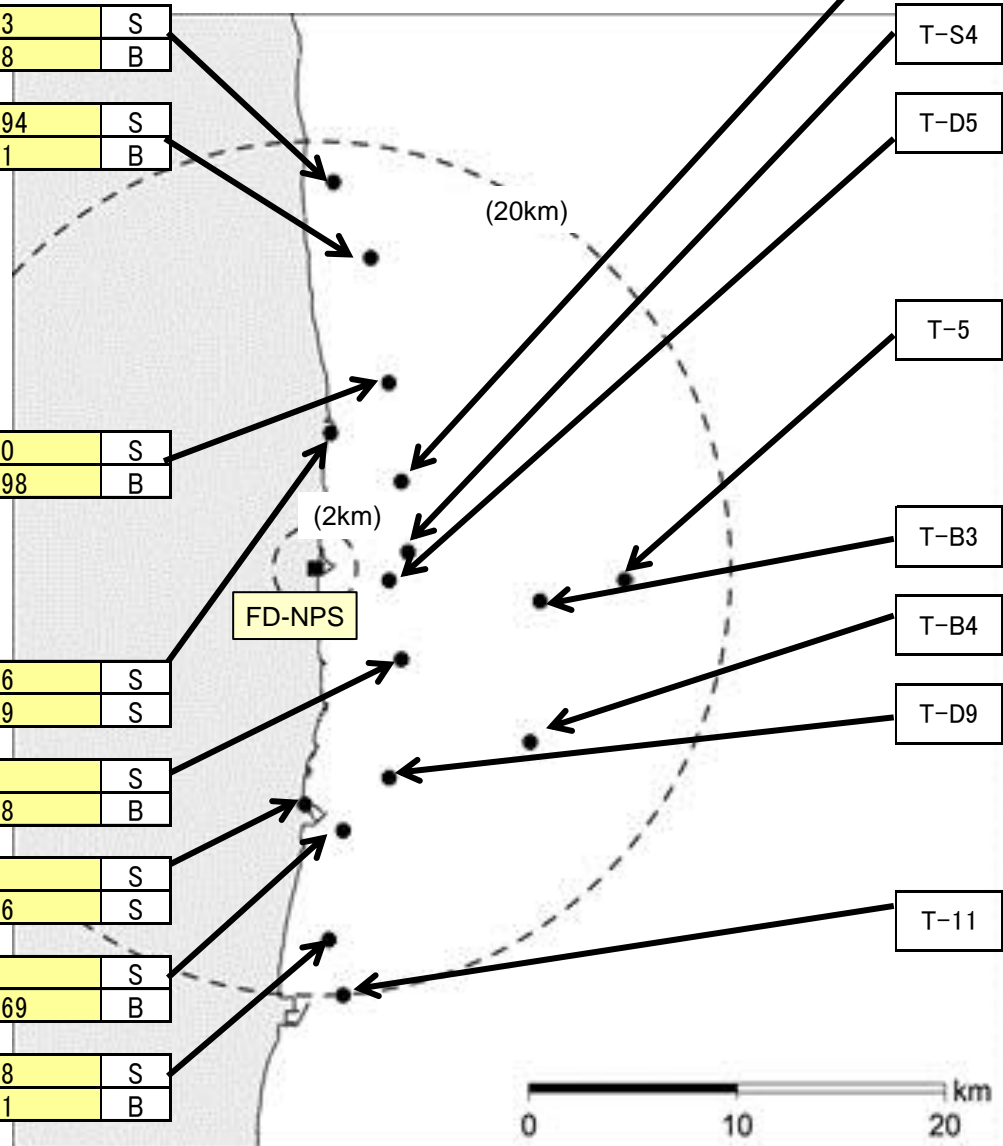
T-5	2015/10/6	ND(0.0015)	0.0042	S
		ND(0.0016)	0.0033	B

T-B3	2015/9/4	ND(0.0011)	0.0031	S
		ND(0.0012)	0.0030	B

T-B4	2015/9/4	ND(0.0012)	0.0022	S
		ND(0.0013)	0.0033	B

T-D9	2015/10/6	0.0026	0.013	S
		0.0019	0.0071	B

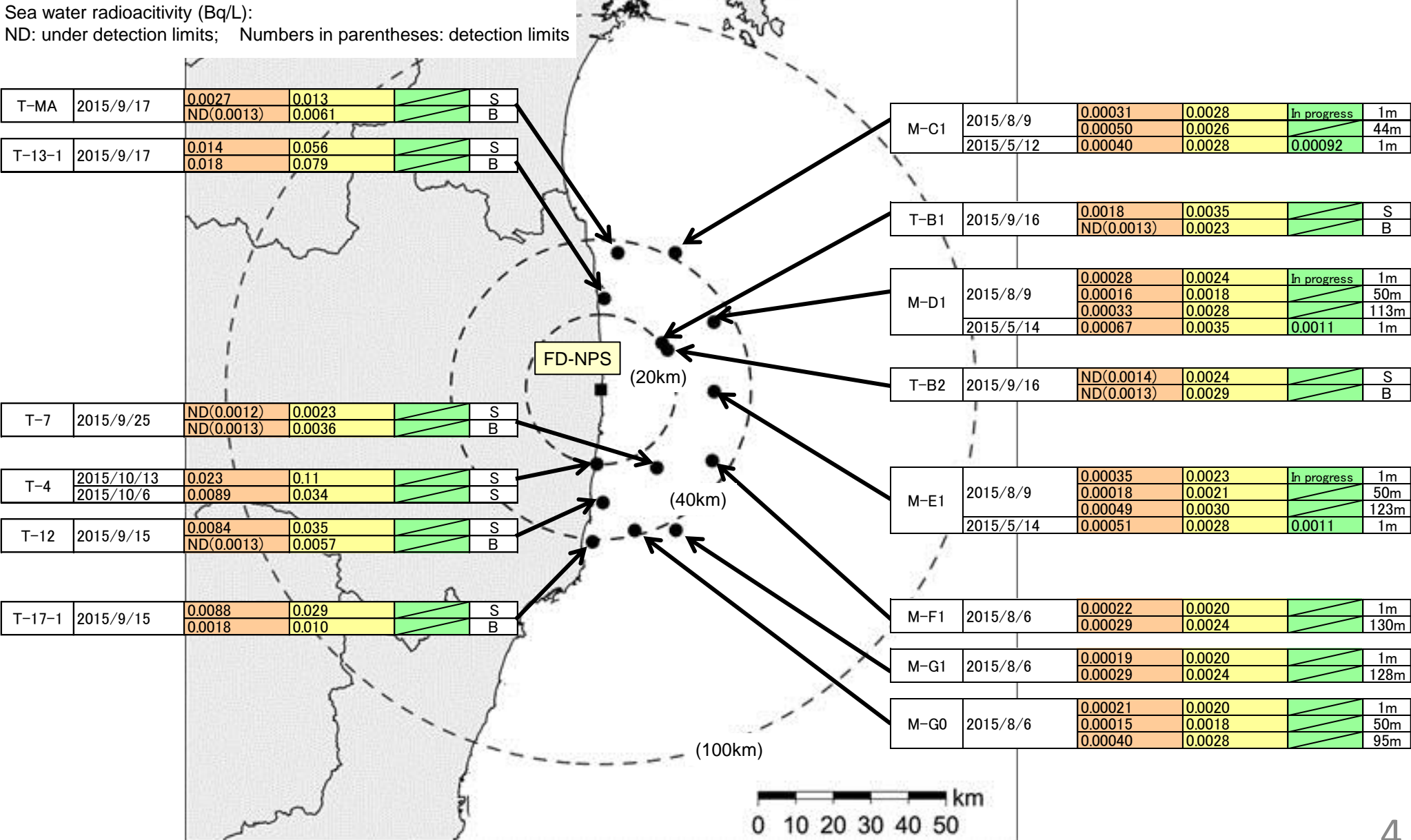
T-11	2015/10/6	0.0018	0.0085	S
		0.0035	0.017	B



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

Sampling point	Sampling Date	Cs-134	Cs-137	Sr-90	S/B	S:2m below sea level	B:2-3m above sea bottom
					Depth(m) from sea level		

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



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

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	S/B
							S:2m below sea level B:2-3m above sea bottom
							Depth(m) from sea level

Sea water radioactivity (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 *	H-3	Sr-90	Depth(m)
M-C3	2015/8/8	0.00031	0.0026	0.025	0.079	In progress	1m
		0.00016	0.0024				50m
		0.00018	0.0020				122m
	2015/5/11	0.00088	0.0039	0.026	0.095	0.0010	1m

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
T-22	2015/9/17	0.0028	0.013				S
		0.0048	0.022				B

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
M-D3	2015/8/8	0.00021	0.0022	0.030	0.093	In progress	1m
		0.00021	0.0021				100m
	ND(0.00016)	0.0018				207m	
2015/5/16	0.00068	0.0035	0.026	0.092	0.0010	1m	

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
M-F3	2015/8/6	0.00018	0.0021	0.025	0.093	In progress	1m
		0.00018	0.0018				100m
	0.00021	0.0019				219m	
2015/5/17	0.00054	0.0034	0.023	0.080	0.0016	1m	

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
T-18	2015/9/25	0.0032	0.016				S
		ND(0.0013)	0.0052				B

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
T-20	2015/9/15	0.0038	0.022				S
		0.0015	0.0062				B

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
T-M10	2015/9/25	ND(0.0010)	0.0023				S
		ND(0.0013)	0.0034				B

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
M-E3	2015/8/8	0.00020	0.0021	0.028	0.065	In progress	1m
		ND(0.00017)	0.0019				100m
	0.00015	0.0017				213m	
2015/5/16	0.00061	0.0034	0.024	0.084	0.0012	1m	

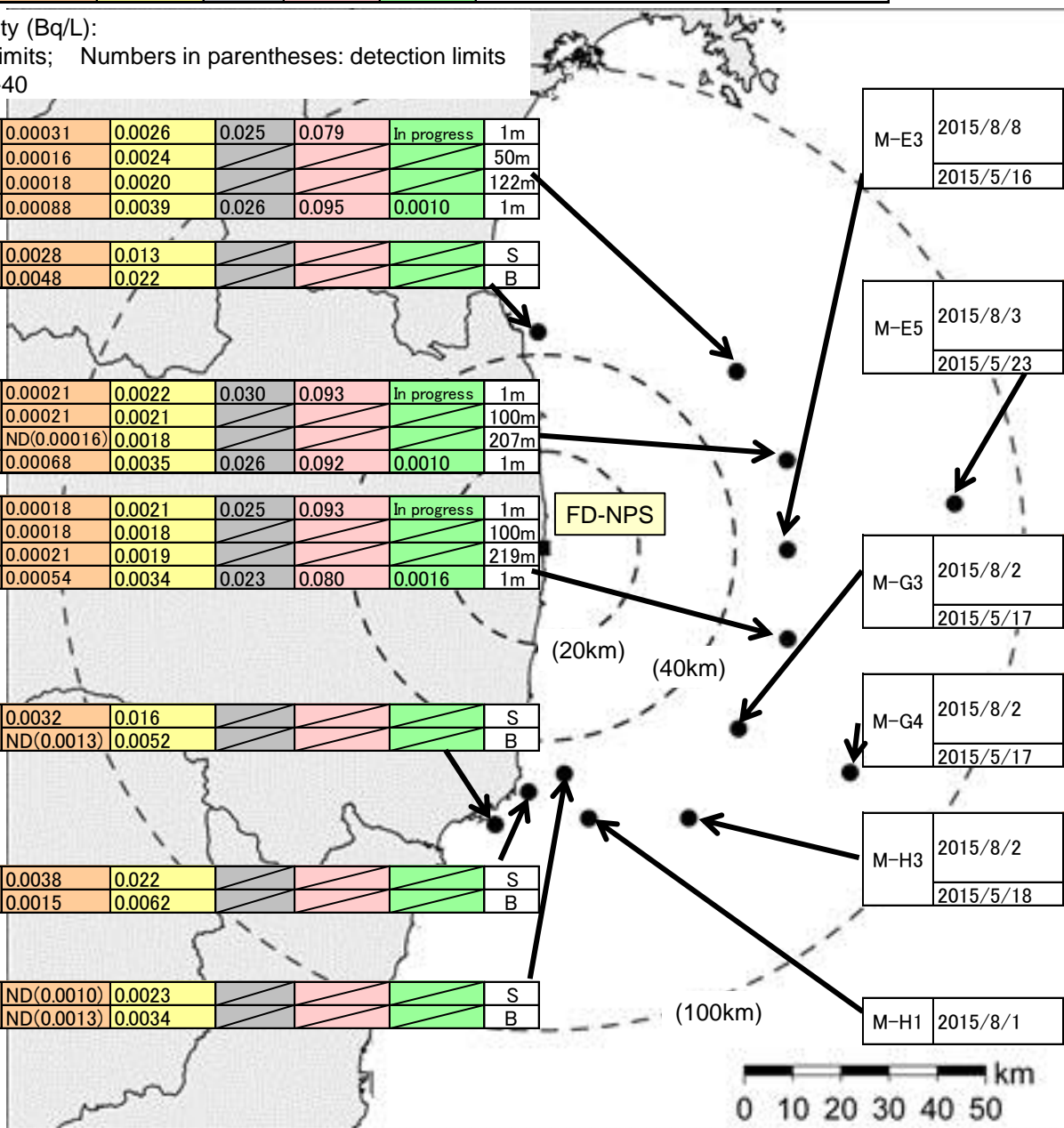
Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
M-E5	2015/8/3	0.00031	0.0023	0.028	0.076	In progress	1m
		0.00029	0.0023				100m
	ND(0.000086)	0.00065				511m	
2015/5/23	0.00031	0.0024	0.024	0.077	0.0012	1m	

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
M-G3	2015/8/2	0.00021	0.0022	0.030	0.085	In progress	1m
		0.00015	0.0020				100m
	0.00016	0.0019				199m	
2015/5/17	0.00059	0.0033	0.025	0.092	0.0015	1m	

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
M-G4	2015/8/2	0.00038	0.0027	0.028	0.086	In progress	1m
		0.00039	0.0026				100m
	ND(0.000069)	0.00057				633m	
2015/5/17	0.00025	0.0024	0.027	0.078	0.0012	1m	

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
M-H3	2015/8/2	0.00023	0.0023	0.030	0.068	In progress	1m
		ND(0.00017)	0.0018				100m
	0.00014	0.0019				218m	
2015/5/18	0.00049	0.0026	0.028	0.082	0.00078	1m	

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
M-H1	2015/8/1	0.0012	0.0058				1m
		0.00035	0.0029				122m



Sea area along and off the coast of Miyagi Prefecture

Sampling point	Sampling Date	Cs-134	Cs-137	Sr-90	S/M/B
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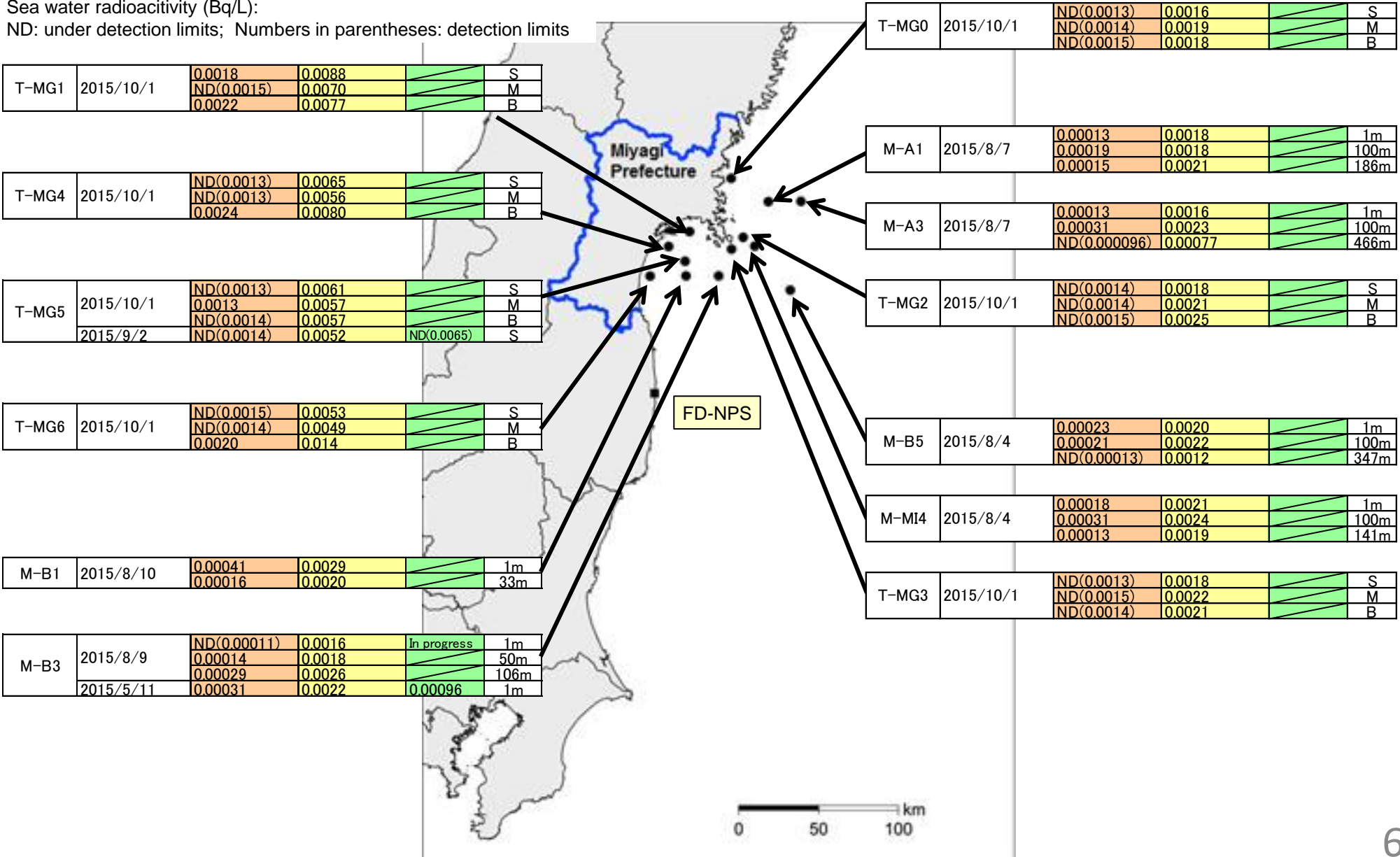
S:2m below sea level

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

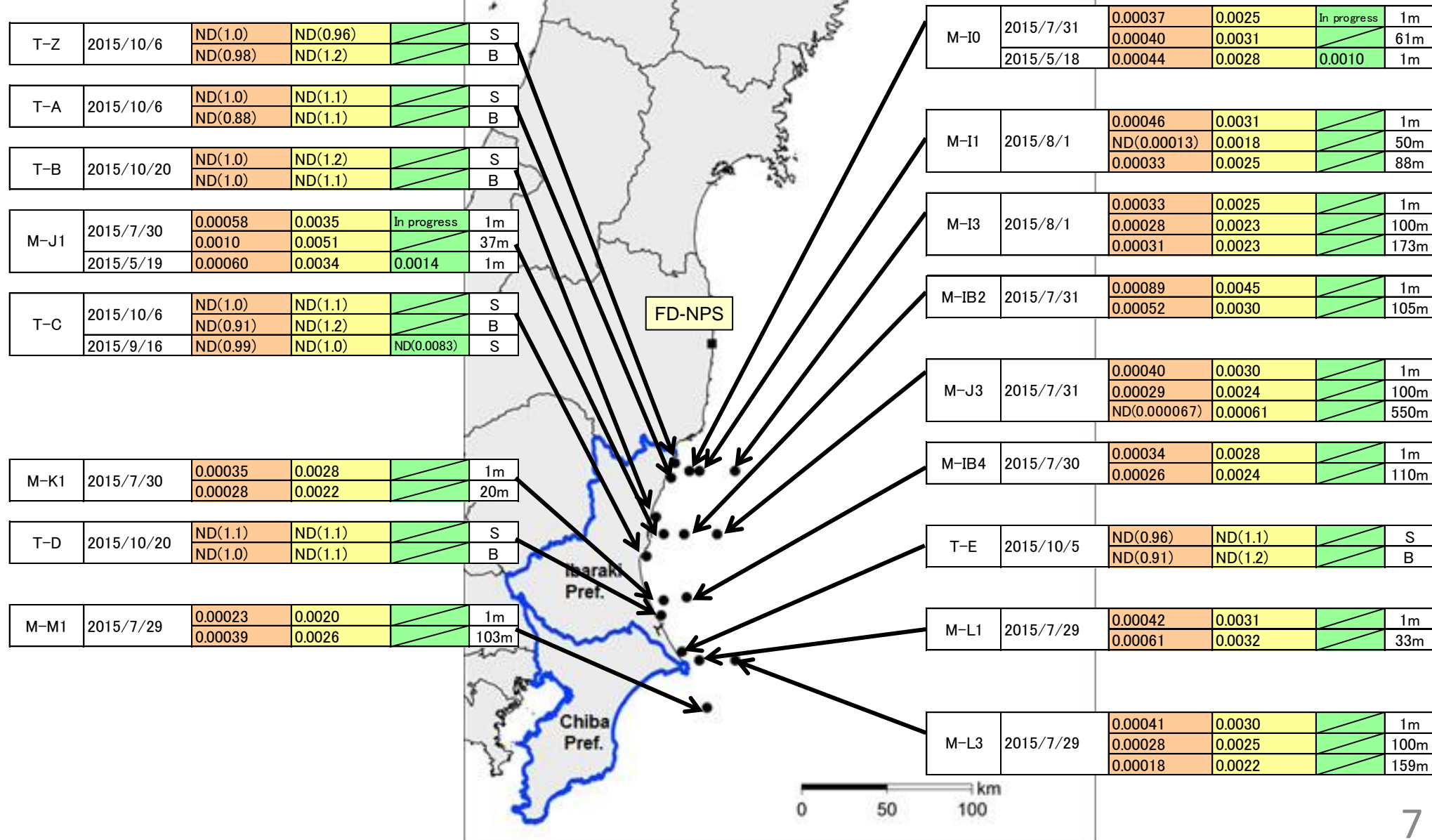


Sea area along and off the coast of Ibaraki Pref. and Chiba Pref.

Sampling point	Sampling Date	Cs-134	Cs-137	Sr-90	S/B	
					S:2m below sea level	B:2-3m above sea bottom
Depth(m) from sea level						

Sea water radioactivity (Bq/L):

ND: under detection limits; Numbers in parentheses: detection limits



Open sea off the coast of Eastern Japan

Sampling point	Sampling Date	Cs-134	Cs-137	Depth(m) from sea level
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Sea water radioactivity (Bq/L):

ND: under detection limits; Numbers in parentheses: detection limits

M-10	2015/5/26	ND(0.00082)	0.0024	1m
		ND(0.00075)	0.0031	101m
		ND(0.00068)	0.0018	201m
		ND(0.00078)	0.0017	301m
		ND(0.00078)	0.00089	500m

M-11	2015/5/26	ND(0.00069)	0.0030	1m
		ND(0.00063)	0.0029	101m
		ND(0.00062)	0.0024	201m
		ND(0.00070)	0.0018	301m
		ND(0.00068)	0.0015	502m

M-14	2015/5/27	ND(0.00064)	0.0028	1m
		ND(0.00054)	0.0018	102m
		ND(0.00060)	0.0015	200m
		ND(0.00053)	0.0011	303m
		ND(0.00060)	0.00086	502m

M-15	2015/5/27	ND(0.00068)	0.0026	1m
		ND(0.00061)	0.0022	100m
		ND(0.00061)	0.0016	201m
		ND(0.00062)	0.0016	300m
		ND(0.00059)	0.00073	501m

M-19	2015/5/29	ND(0.00058)	0.0026	1m
		ND(0.00057)	0.0022	102m
		ND(0.00056)	0.0015	201m
		ND(0.00055)	0.0016	300m
		ND(0.00056)	0.00071	502m

M-21	2015/5/31	ND(0.00057)	0.0016	1m
		ND(0.00061)	0.0023	102m
		0.00061	0.0039	200m
		ND(0.00052)	0.0023	300m
		ND(0.00062)	0.00087	500m

M-20	2015/5/31	ND(0.00065)	0.0017	1m
		0.00065	0.0031	100m
		ND(0.00068)	0.0031	200m
		ND(0.00059)	0.0018	305m
		ND(0.00061)	0.0013	499m

M-26	2015/5/28	ND(0.00060)	0.0024	1m
		ND(0.00056)	0.0029	100m
		ND(0.00066)	0.0034	202m
		ND(0.00066)	0.0040	301m
		ND(0.00061)	0.0027	500m

M-25	2015/6/1	ND(0.00073)	0.0015	1m
		ND(0.00077)	0.0031	100m
		ND(0.00069)	0.0030	201m
		0.00081	0.0056	301m
		0.00067	0.0024	500m

M-27	2015/5/28	ND(0.00060)	0.0026	1m
		ND(0.00060)	0.0030	100m
		0.00082	0.0042	200m
		0.0011	0.0049	301m
		ND(0.00065)	0.0034	501m

