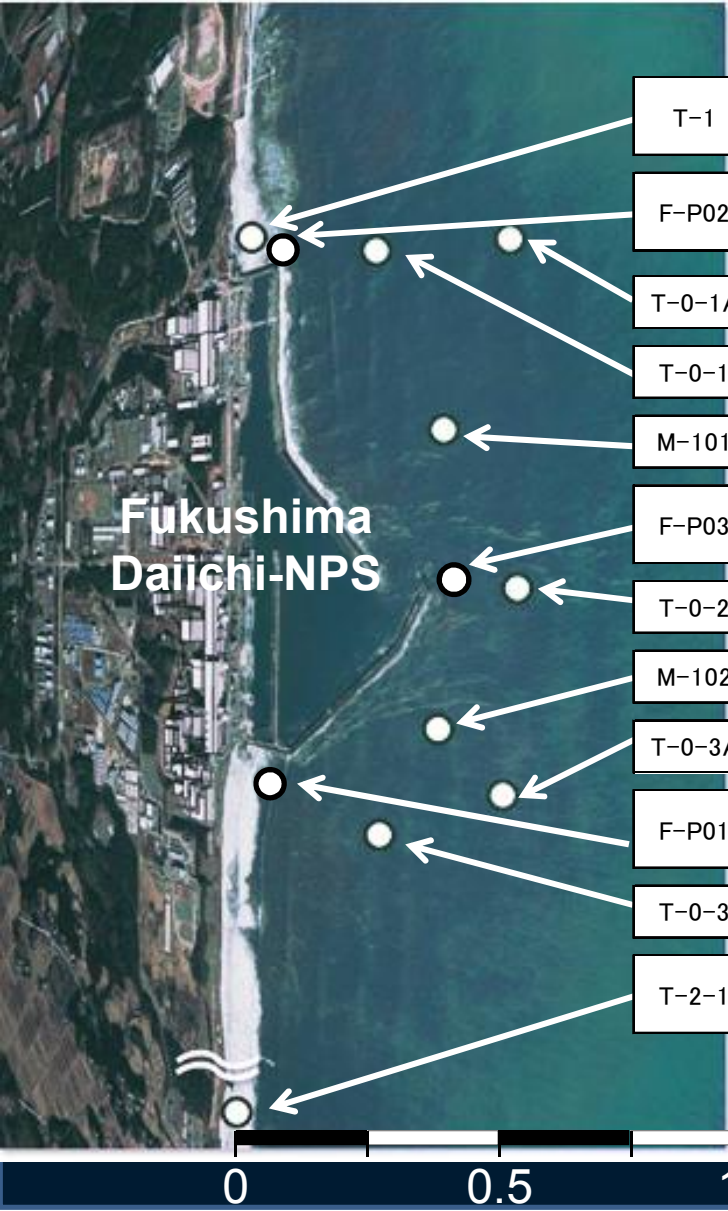


# Sea Area Monitoring

February 10, 2015

Nuclear Regulation Authority (NRA), Japan

# Sea area within 2km radius from the NPS



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

T-1	2015/1/26	ND(0.73)	ND(0.75)	15 <sup>*1</sup>	ND(1.5)				
	2014/12/8	ND(0.81)	0.77	9.9 <sup>*1</sup>	1.9	0.13	ND(1.5)		
	2014/10/21	ND(0.69)	ND(0.83)					ND( $5.1 \times 10^{-6}$ )	( $9.4 \pm 2.2$ ) $\times 10^{-6}$
F-P02	2014/12/8	ND(0.060)	0.095	0.06 <sup>*2</sup>	ND(0.43)	In progress		In progress	In progress
	2014/11/10	0.066	0.18	0.04 <sup>*2</sup>	ND(0.43)	0.039		In progress	In progress
	2014/10/20	ND(0.056)	ND(0.054)	0.04 <sup>*2</sup>	ND(0.45)	0.012		ND( $7 \times 10^{-6}$ )	ND( $7 \times 10^{-6}$ )
T-0-1A	2015/1/26	ND(0.70)	ND(0.74)	ND(15) <sup>*1</sup>	In progress				
	2015/1/20	ND(0.65)	ND(0.59)	ND(17) <sup>*1</sup>	ND(1.5)				
T-0-1	2015/1/26	ND(0.44)	ND(0.70)	ND(15) <sup>*1</sup>	In progress				
	2015/1/20	ND(0.60)	ND(0.68)	ND(17) <sup>*1</sup>	ND(1.5)				
M-101	2014/12/9	0.018	0.062		0.15	In progress			
	2014/11/6	0.021	0.070		0.18	0.0087			
F-P03	2014/12/8	ND(0.065)	ND(0.062)	0.05 <sup>*2</sup>	ND(0.43)	In progress		In progress	In progress
	2014/11/10	0.13	0.36	0.17 <sup>*2</sup>	1.7	0.14		In progress	In progress
	2014/10/20	0.11	0.33	0.08 <sup>*2</sup>	0.61	0.12		ND( $7 \times 10^{-6}$ )	ND( $8 \times 10^{-6}$ )
T-0-2	2015/1/26	ND(0.76)	ND(0.67)	ND(15) <sup>*1</sup>	In progress				
	2015/1/20	ND(0.43)	ND(0.72)	ND(17) <sup>*1</sup>	ND(1.5)				
M-102	2014/12/10	0.057	0.18		0.31	In progress			
	2014/11/5	0.015	0.047		0.11	0.0036			
T-0-3A	2015/1/26	ND(0.87)	ND(0.78)	ND(15) <sup>*1</sup>	In progress				
	2015/1/20	ND(0.74)	ND(0.71)	ND(17) <sup>*1</sup>	ND(1.5)				
F-P01	2014/12/8	ND(0.067)	0.091	0.06 <sup>*2</sup>	ND(0.43)	In progress		In progress	In progress
	2014/11/10	ND(0.065)	0.098	0.03 <sup>*2</sup>	0.48	0.006		In progress	In progress
	2014/10/20	ND(0.067)	0.054	0.04 <sup>*2</sup>	ND(0.45)	0.011		ND( $6 \times 10^{-6}$ )	ND( $8 \times 10^{-6}$ )
T-0-3	2015/1/26	ND(0.77)	ND(0.65)	ND(15) <sup>*1</sup>	In progress				
	2015/1/20	ND(0.94)	ND(0.65)	ND(17) <sup>*1</sup>	ND(1.5)				
T-2-1	2015/1/26	ND(0.79)	ND(0.60)	13 <sup>*1</sup>	ND(1.5)				
	2014/12/8	ND(0.67)	ND(0.64)	12 <sup>*1</sup>	1.8	0.013	ND(1.5)		
	2014/10/21	ND(0.81)	1.1	11 <sup>*1</sup>				ND( $5.3 \times 10^{-6}$ )	( $1.2 \pm 0.25$ ) $\times 10^{-5}$

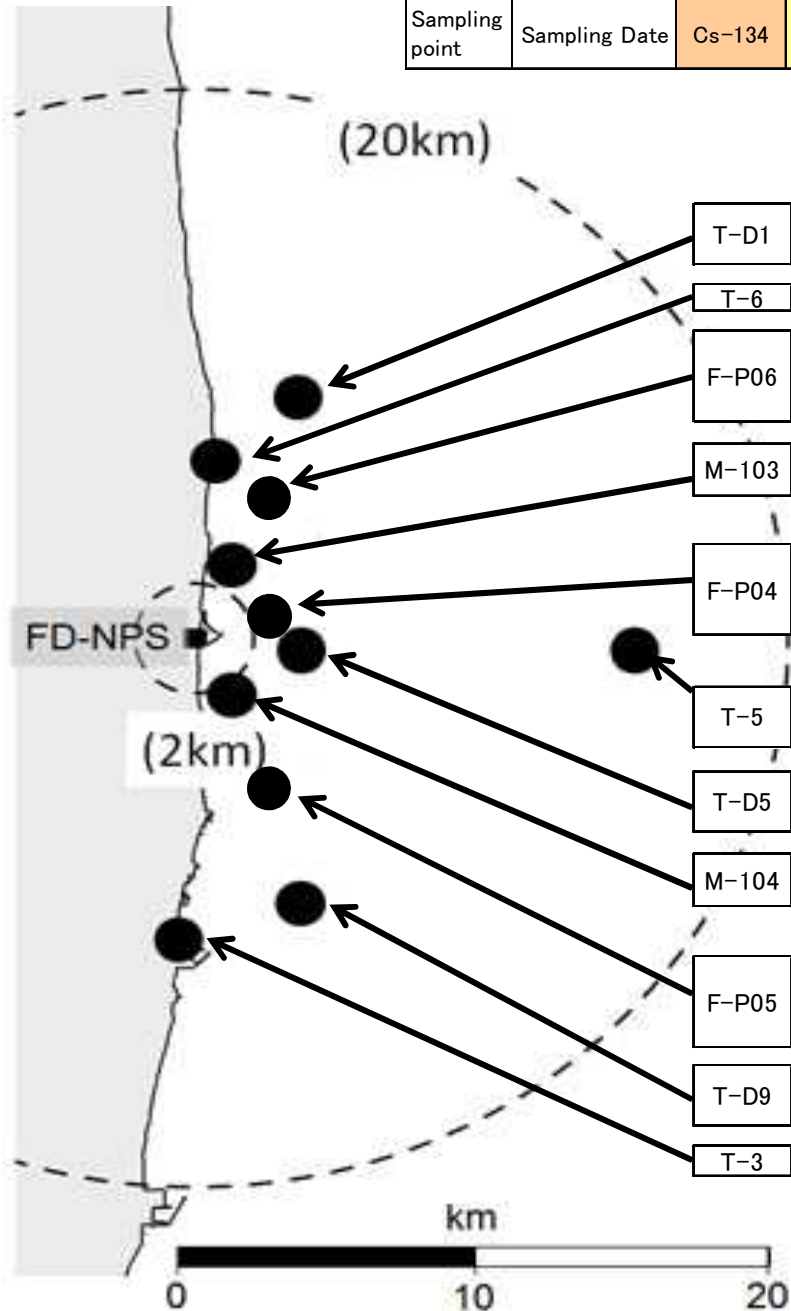
# Sea area between 2-20km radius from the NPS (1)

Sampling point	Sampling Date	Cs-134	Cs-137	total $\beta$	H-3	Sr-90	total $\alpha$	Pu-238	Pu-239+Pu-240	S	S:2m below sea level
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Sea water radioactivity (Bq/L):

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

\*1: Total  $\beta$ : including K-40 \*2: Total  $\beta$ : excluding K-40



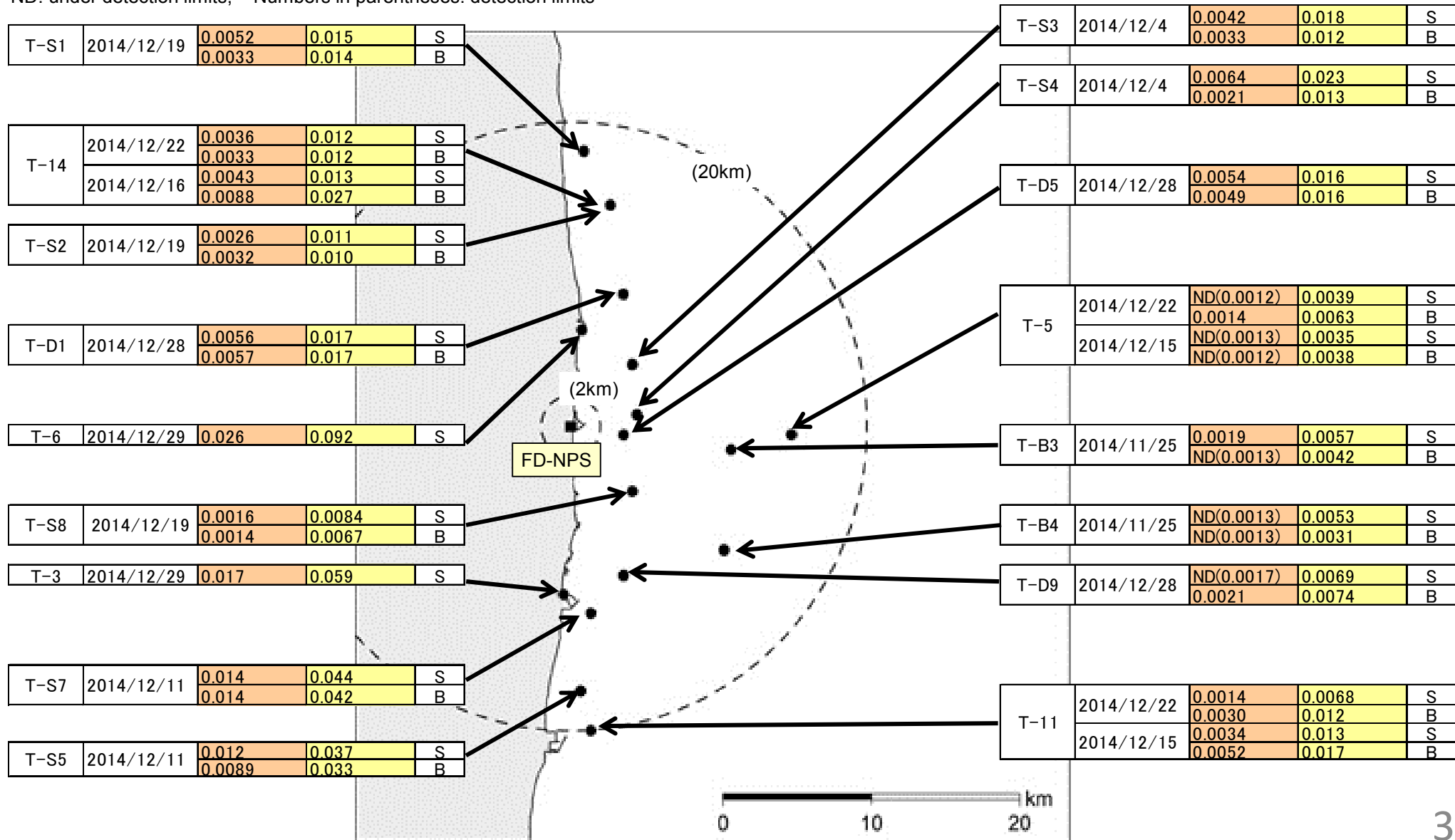
T-D1	2014/12/6	0.0020	0.0094	ND(17) <sup>*1</sup>	ND(0.31)	ND(0.0085)	ND(1.6)			S
	2014/10/8	0.022	0.070					ND(6.2 × 10 <sup>-6</sup> )	(5.5 ± 1.7) × 10 <sup>-6</sup>	S
T-6	2014/12/2	0.045	0.13	ND(17) <sup>*1</sup>	ND(0.34)					S
F-P06	2014/12/8	ND(0.070)	ND(0.064)	0.03 <sup>*2</sup>	ND(0.43)	In progress		In progress	In progress	S
	2014/11/10	ND(0.065)	ND(0.065)	0.03 <sup>*2</sup>	ND(0.43)	0.001		In progress	In progress	S
	2014/10/20	ND(0.056)	ND(0.049)	0.03 <sup>*2</sup>	ND(0.45)	0.001		ND(6 × 10 <sup>-6</sup> )	ND(6 × 10 <sup>-6</sup> )	S
M-103	2014/12/9	0.010	0.035		0.093	In progress				0.5m
	2014/11/6	0.0094	0.035		0.12	0.0025				0.5m
F-P04	2014/12/8	ND(0.058)	0.13	0.04 <sup>*2</sup>	ND(0.43)	In progress		In progress	In progress	S
	2014/11/10	ND(0.080)	ND(0.054)	0.03 <sup>*2</sup>	ND(0.42)	0.005		In progress	In progress	S
	2014/10/20	ND(0.062)	0.092	0.03 <sup>*2</sup>	ND(0.45)	0.016		ND(6 × 10 <sup>-6</sup> )	ND(6 × 10 <sup>-6</sup> )	S
T-5	2014/12/4	ND(0.0013)	0.0043	ND(15) <sup>*1</sup>	ND(0.31)	ND(0.0095)	ND(1.6)			S
	2014/10/18	ND(0.0013)	0.0026					ND(5.4 × 10 <sup>-6</sup> )	(6.6 ± 1.8) × 10 <sup>-6</sup>	S
T-D5	2014/12/6	0.0057	0.017	ND(17) <sup>*1</sup>	ND(0.31)	ND(0.0086)	ND(1.6)			S
	2014/10/8	0.024	0.067					ND(6.1 × 10 <sup>-6</sup> )	(8.4 ± 2.2) × 10 <sup>-6</sup>	S
M-104	2014/12/10	0.0081	0.028		0.090	In progress				0.5m
	2014/11/5	0.0096	0.035		0.12	0.0039				0.5m
F-P05	2014/12/8	ND(0.057)	ND(0.065)	0.03 <sup>*2</sup>	ND(0.44)	In progress		In progress	In progress	S
	2014/11/10	ND(0.066)	ND(0.060)	0.03 <sup>*2</sup>	ND(0.42)	0.004		In progress	In progress	S
	2014/10/20	ND(0.062)	ND(0.058)	0.03 <sup>*2</sup>	ND(0.45)	0.003		ND(7 × 10 <sup>-6</sup> )	ND(7 × 10 <sup>-6</sup> )	S
T-D9	2014/12/4	0.0036	0.012	ND(15) <sup>*1</sup>	ND(0.31)	ND(0.0098)	ND(1.6)			S
	2014/10/18	0.012	0.036					ND(4.8 × 10 <sup>-6</sup> )	(5.0 ± 1.6) × 10 <sup>-6</sup>	S
T-3	2014/12/2	0.040	0.14	ND(16) <sup>*1</sup>	ND(0.32)					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				

Sea water radioactivity (Bq/L):

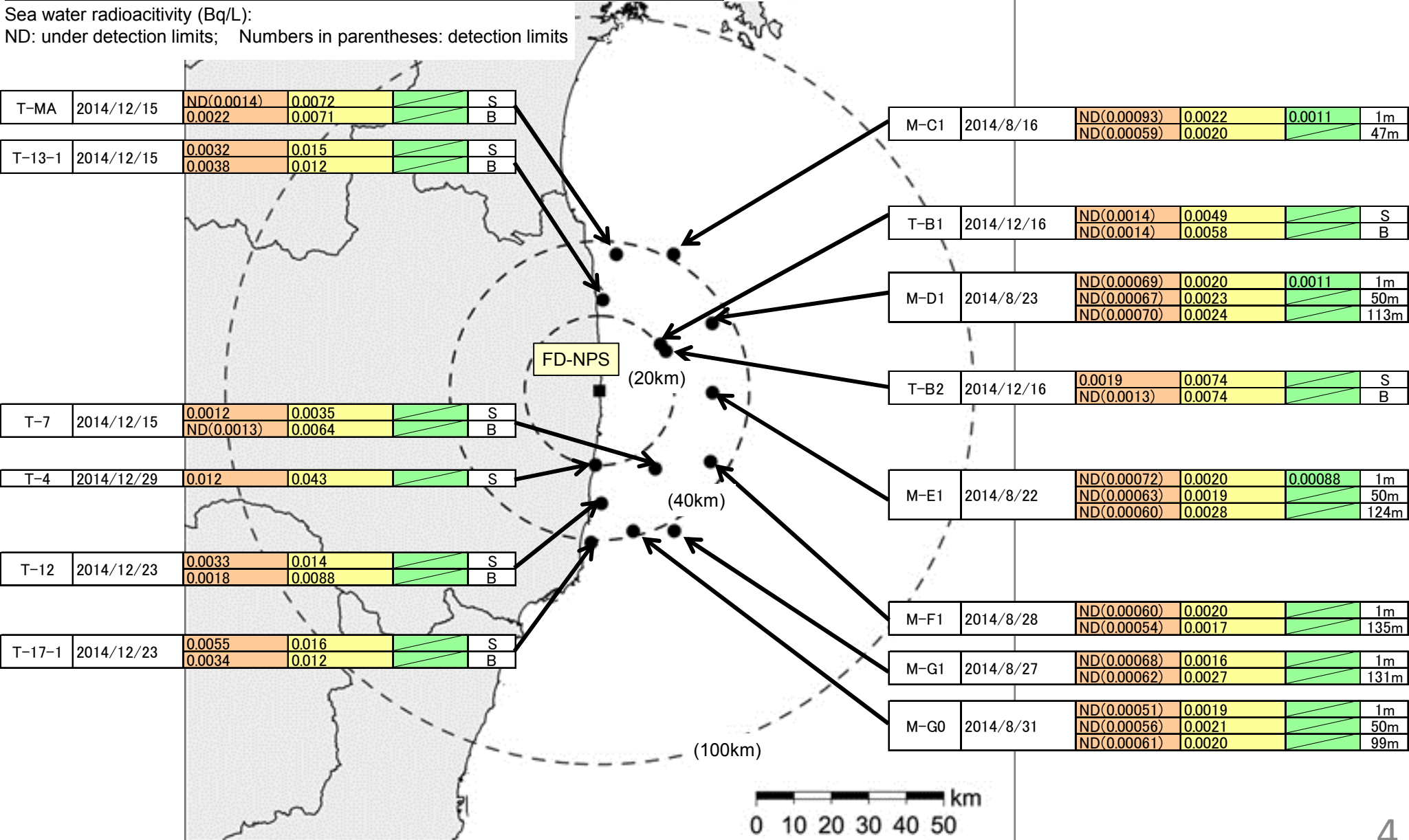
ND: under detection limits; Numbers in parentheses: detection limits



# 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	2014/11/10	In progress	In progress	0.026	0.088	In progress	1m
	2014/8/16	ND(0.00069)	0.0020	0.021	0.10	0.00079	1m
		ND(0.00066)	0.0018				50m
		ND(0.00072)	0.0014				124m

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
T-22	2014/12/15	0.0018	0.0085				S
		0.0026	0.0097				B

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
M-D3	2014/11/9	In progress	In progress	0.035	0.093	In progress	1m
	2014/8/23	ND(0.00058)	0.0018	0.025	0.10	0.00082	1m
		ND(0.00074)	0.0019				100m
		ND(0.00082)	0.0015			214m	

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
M-F3	2014/11/8	In progress	In progress	0.026	0.076	In progress	1m
	2014/8/21	ND(0.00054)	0.0012	0.026	0.098	0.00071	1m
		ND(0.00067)	0.0015				100m
		ND(0.00064)	0.0013			224m	

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
T-18	2014/12/10	ND(0.0013)	0.0045				S
		0.0019	0.0051				B

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
T-20	2014/12/23	0.0024	0.0081				S
		0.0035	0.014				B

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
T-M10	2014/12/10	ND(0.0012)	0.0039				S
		ND(0.0012)	0.0037				B

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
M-E3	2014/11/9	In progress	In progress	0.026	0.096	In progress	1m
	2014/8/21	ND(0.00067)	0.0026	0.029	0.073	0.00085	1m
		ND(0.00065)	0.0016				100m
		ND(0.00059)	0.0015			220m	

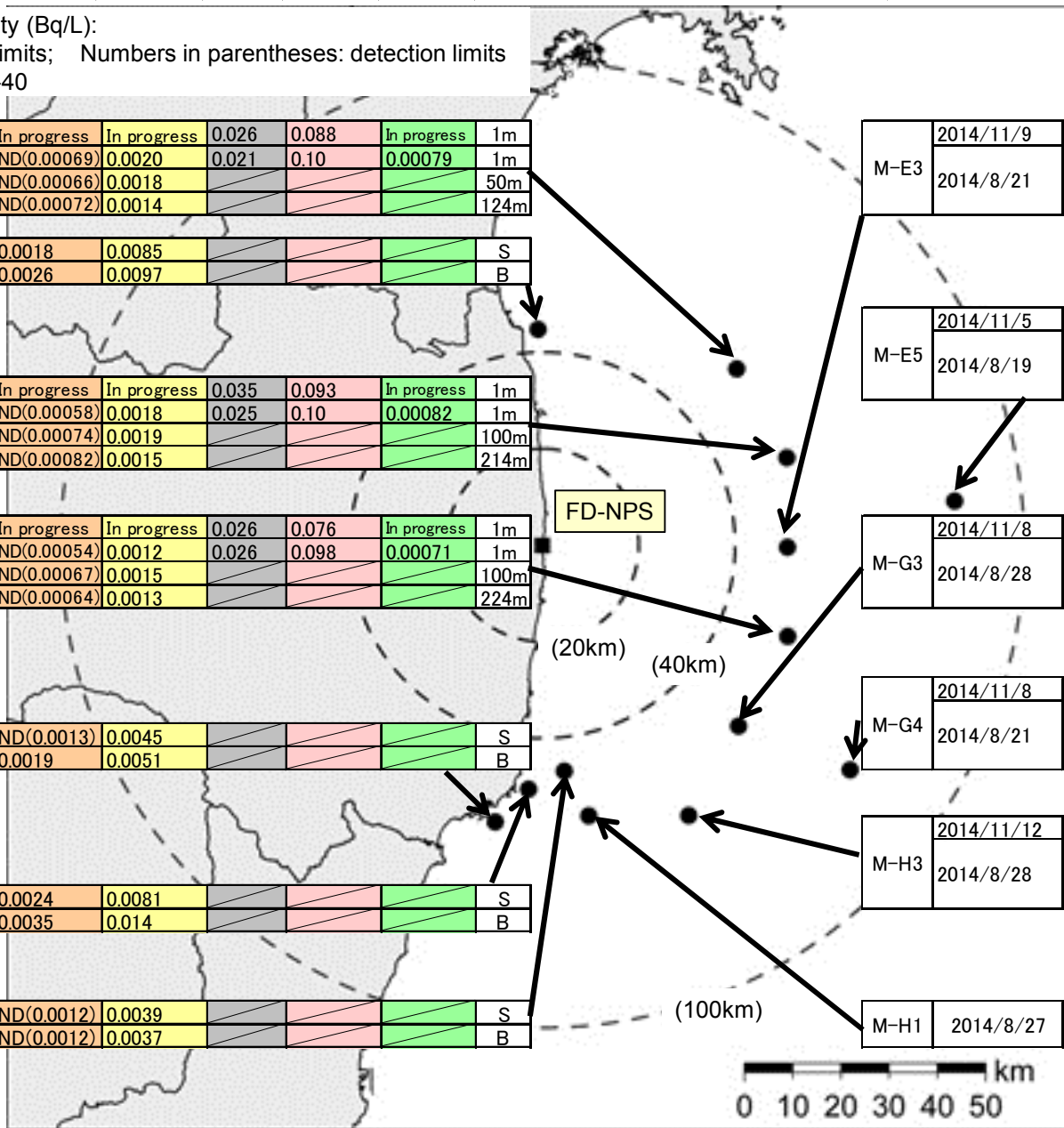
Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
M-E5	2014/11/5	In progress	In progress	0.031	0.078	In progress	1m
	2014/8/19	ND(0.00058)	0.0013	0.025	0.095	0.00079	1m
		ND(0.00083)	0.0022				100m
		ND(0.00070)	0.00095			527m	

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
M-G3	2014/11/8	In progress	In progress	0.034	0.080	In progress	1m
	2014/8/28	ND(0.00081)	0.0017	0.022	0.10	0.00093	1m
		ND(0.00064)	0.0013				100m
		ND(0.00059)	0.0017			199m	

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
M-G4	2014/11/8	In progress	In progress	0.034	0.062	In progress	1m
	2014/8/21	ND(0.00075)	0.0019	0.024	0.062	0.00085	1m
		ND(0.00067)	0.0021				100m
		ND(0.00071)	0.00062			655m	

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
M-H3	2014/11/12	In progress	In progress	0.030	0.070	In progress	1m
	2014/8/28	ND(0.00060)	0.0019	0.025	0.065	0.00085	1m
		ND(0.00073)	0.0019				100m
		ND(0.00068)	0.0018			222m	

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	Depth(m)
M-H1	2014/8/27	ND(0.00072)	0.0023				1m
		ND(0.00070)	0.0030				123m



# 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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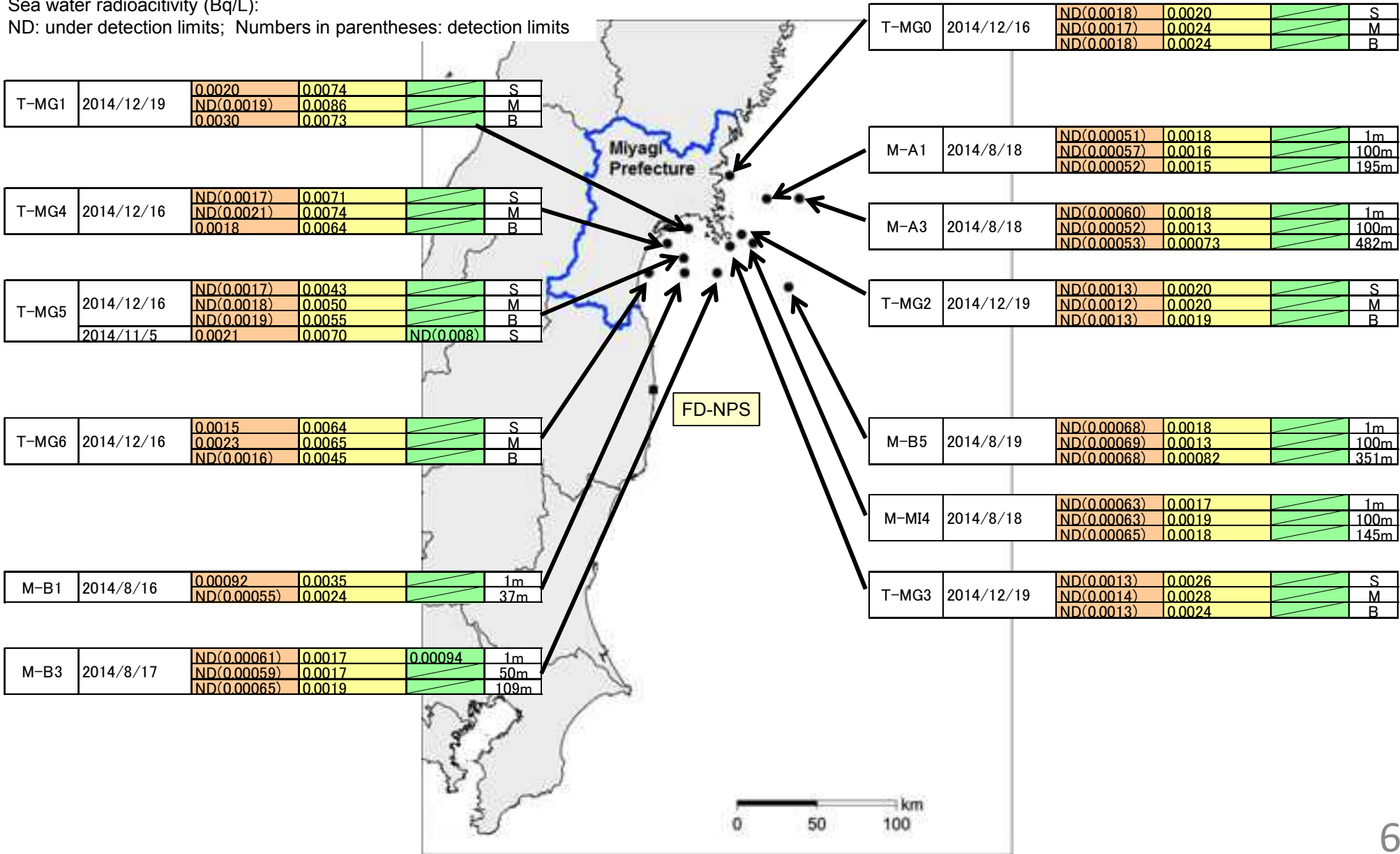
S:2m below sea level

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

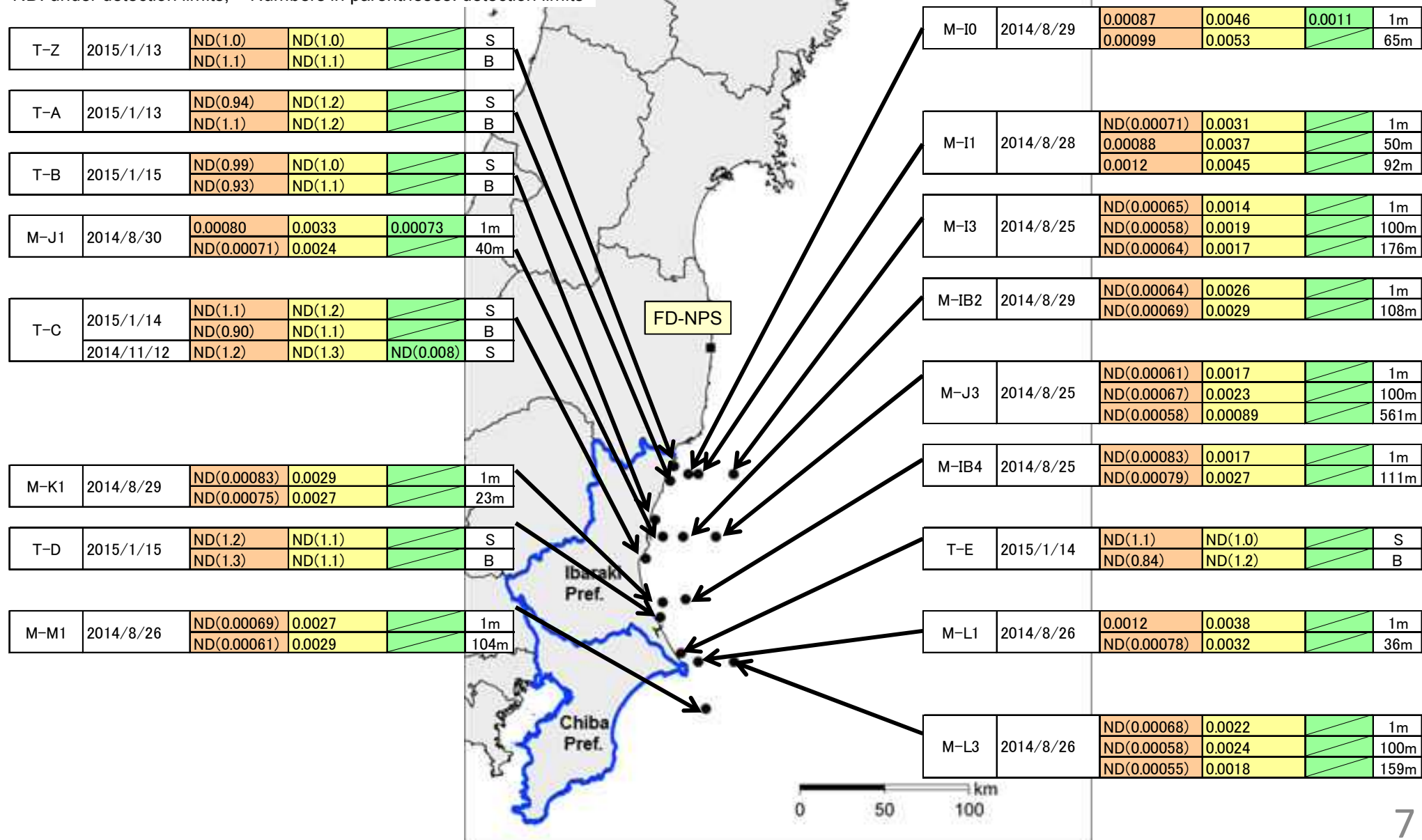


# Sea area along and off the coast of Ibaraki Pref. and Chiba Pref.

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	2014/10/22	ND(0.00073)	0.0018	1m
		ND(0.00061)	0.0017	103m
		ND(0.00065)	0.0013	200m
		ND(0.00066)	0.0010	301m
		ND(0.00061)	0.00060	498m

M-14	2014/10/24	ND(0.00065)	0.0023	1m
		0.00064	0.0028	100m
		ND(0.00061)	0.0017	200m
		ND(0.00071)	0.0012	300m
		ND(0.00067)	0.00073	500m

M-19	2014/10/28	ND(0.00058)	0.0018	1m
		ND(0.00052)	0.0027	100m
		0.0013	0.0045	200m
		ND(0.00063)	0.0034	300m
		ND(0.00055)	0.0017	500m

M-20	2014/10/29	ND(0.00066)	0.0016	1m
		ND(0.00062)	0.0027	100m
		0.0016	0.0046	200m
		ND(0.00078)	0.0045	300m
		ND(0.00069)	0.0014	500m

M-25	2014/10/27	ND(0.00061)	0.0016	1m
		ND(0.00056)	0.0029	100m
		ND(0.00058)	0.0029	200m
		ND(0.00071)	0.0021	300m
		ND(0.00056)	0.00083	500m

M-11	2014/10/25	ND(0.00065)	0.0018	1m
		ND(0.00060)	0.0031	100m
		ND(0.00059)	0.0020	200m
		ND(0.00057)	0.0014	300m
		ND(0.00059)	0.0011	500m

M-15	2014/10/25	ND(0.00057)	0.0020	1m
		ND(0.00064)	0.0026	100m
		ND(0.00061)	0.0015	200m
		ND(0.00059)	0.0013	300m
		ND(0.00058)	0.00066	500m

M-21	2014/10/26	ND(0.00058)	0.0015	1m
		ND(0.00065)	0.0026	100m
		0.0010	0.0041	200m
		0.00080	0.0042	300m
		0.00068	0.0029	500m

M-26	2014/10/27	ND(0.00070)	0.0016	1m
		0.00095	0.0030	100m
		0.00074	0.0027	200m
		ND(0.00062)	0.0026	300m
		ND(0.00065)	0.00093	500m

M-27	2014/10/26	ND(0.00063)	0.0016	1m
		ND(0.00062)	0.0025	100m
		0.00070	0.0030	200m
		ND(0.00063)	0.0024	300m
		ND(0.00056)	0.0014	500m

