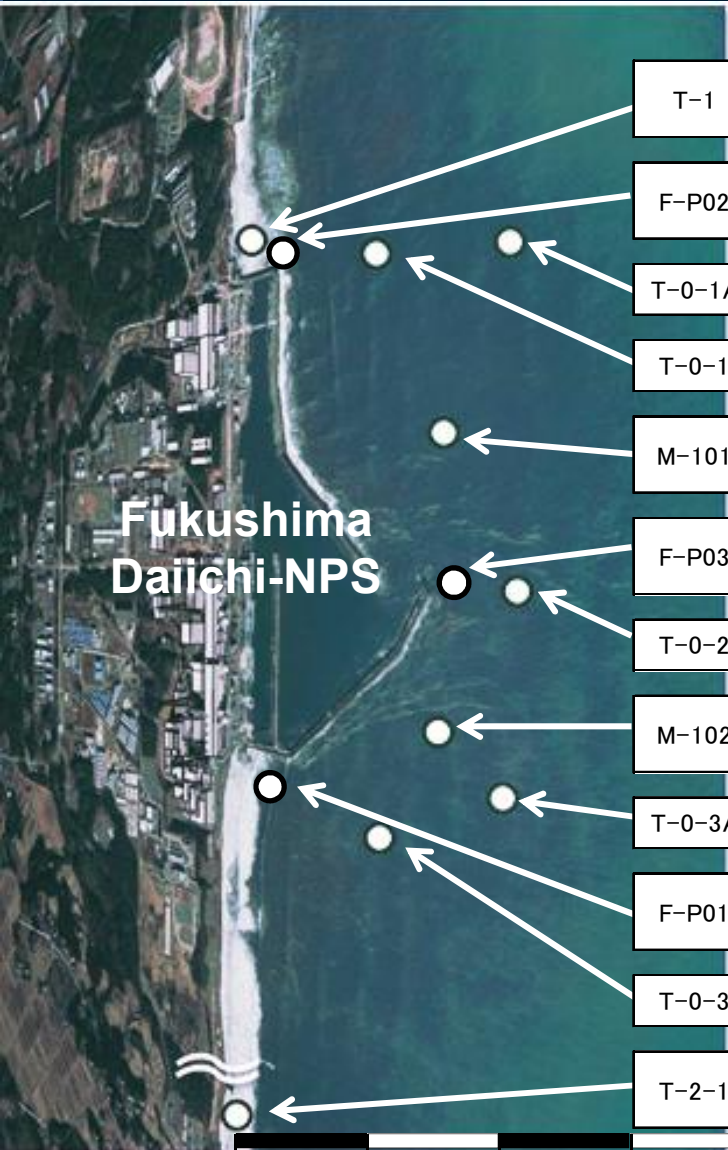


# Sea Area Monitoring

December 24, 2014

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	2014/12/8	ND(0.81)	0.77	9.9 <sup>*1</sup>	1.9				
	2014/10/21	ND(0.69)	ND(0.83)					ND( $5.1 \times 10^{-6}$ )	ND( $7 \times 10^{-6}$ )
	2014/10/20	ND(0.66)	ND(0.62)	13 <sup>*1</sup>	ND(1.5)	0.030	ND(2.0)		
F-P02	2014/11/10	0.066	0.18	0.04 <sup>*2</sup>	In progress	In progress		In progress	In progress
	2014/10/20	ND(0.056)	ND(0.054)	0.04 <sup>*2</sup>	ND(0.45)	In progress		In progress	In progress
	2014/9/16	0.13	0.35	0.14 <sup>*2</sup>	0.84	0.17		ND( $6 \times 10^{-6}$ )	ND( $6 \times 10^{-6}$ )
T-0-1A	2014/12/8	ND(0.68)	ND(0.64)	ND(17) <sup>*1</sup>	In progress				
	2014/12/4	ND(0.73)	ND(0.53)	ND(17) <sup>*1</sup>	ND(1.5)				
T-0-1	2014/12/8	ND(0.63)	ND(0.68)	ND(17) <sup>*1</sup>	In progress				
	2014/12/4	ND(0.68)	ND(0.73)	ND(17) <sup>*1</sup>	ND(1.5)				
M-101	2014/11/6	0.021	0.070		In progress	In progress			
	2014/10/20	0.10	0.33		1.7	In progress			
	2014/9/13	0.040	0.12		0.17	0.019			
F-P03	2014/11/10	0.13	0.36	0.17 <sup>*2</sup>	In progress	In progress		In progress	In progress
	2014/10/20	0.11	0.33	0.08 <sup>*2</sup>	0.61	In progress		In progress	In progress
	2014/9/16	0.35	0.94	0.23 <sup>*2</sup>	2.5	0.40		ND( $8 \times 10^{-6}$ )	ND( $8 \times 10^{-6}$ )
T-0-2	2014/12/8	ND(0.76)	ND(0.72)	ND(17) <sup>*1</sup>	In progress				
	2014/12/4	ND(0.69)	ND(0.75)	ND(17) <sup>*1</sup>	ND(1.5)				
M-102	2014/11/5	0.015	0.047		In progress	In progress			
	2014/10/21	0.015	0.050		0.12	In progress			
	2014/9/12	0.039	0.12		0.13	0.010			
T-0-3A	2014/12/8	ND(0.61)	ND(0.70)	ND(17) <sup>*1</sup>	In progress				
	2014/12/4	ND(0.47)	ND(0.70)	ND(17) <sup>*1</sup>	ND(1.5)				
F-P01	2014/11/10	ND(0.065)	0.098	0.03 <sup>*2</sup>	In progress	In progress		In progress	In progress
	2014/10/20	ND(0.067)	0.054	0.04 <sup>*2</sup>	ND(0.45)	In progress		In progress	In progress
	2014/9/16	0.060	0.14	0.04 <sup>*2</sup>	0.51	0.009		ND( $7 \times 10^{-6}$ )	ND( $9 \times 10^{-6}$ )
T-0-3	2014/12/8	ND(0.53)	ND(0.65)	ND(17) <sup>*1</sup>	In progress				
	2014/12/4	ND(0.74)	ND(0.76)	ND(17) <sup>*1</sup>	ND(1.5)				
T-2-1	2014/12/8	ND(0.67)	ND(0.64)	12 <sup>*1</sup>	1.8				
	2014/10/21	ND(0.81)	1.1	11 <sup>*1</sup>				ND( $5.3 \times 10^{-6}$ )	
	2014/10/20	ND(0.76)	ND(0.60)	14 <sup>*1</sup>	ND(1.5)	ND(0.0089)	ND(2.0)		( $1.2 \pm 0.25$ ) $\times 10^{-5}$

0 0.5 1km

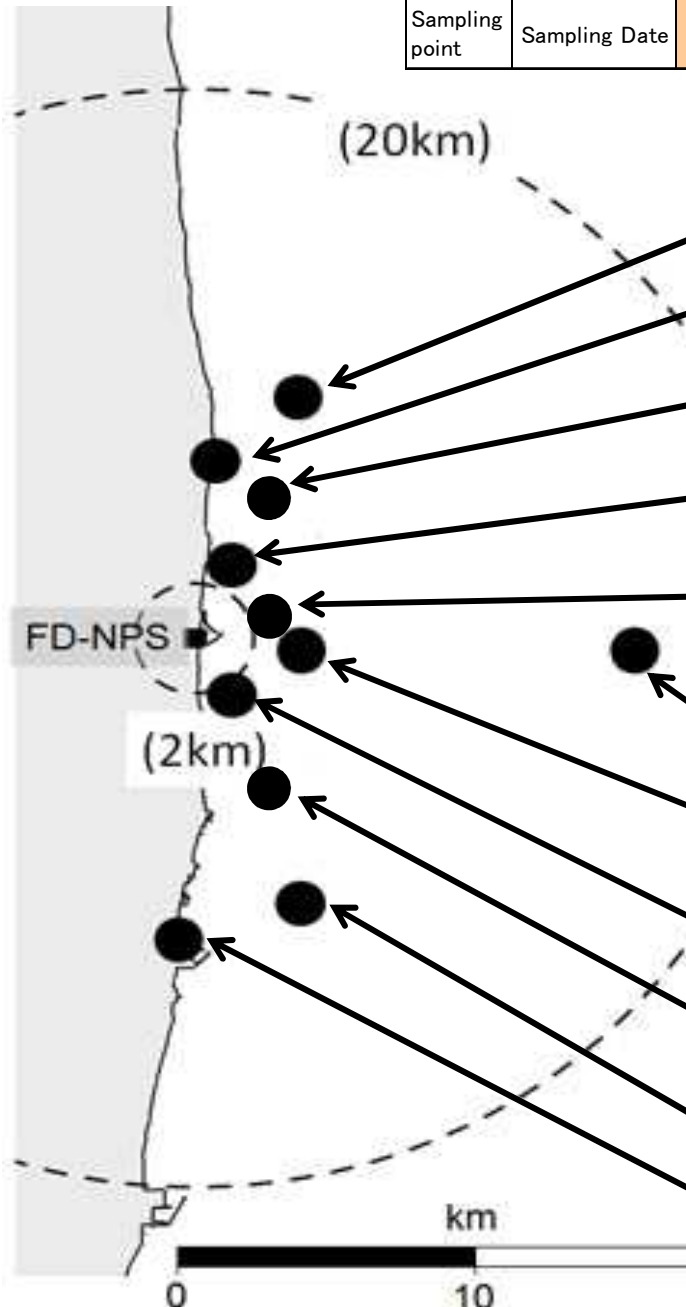
# Sea area between 2-20km radius from the NPS (1)

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 Depth(m) from 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



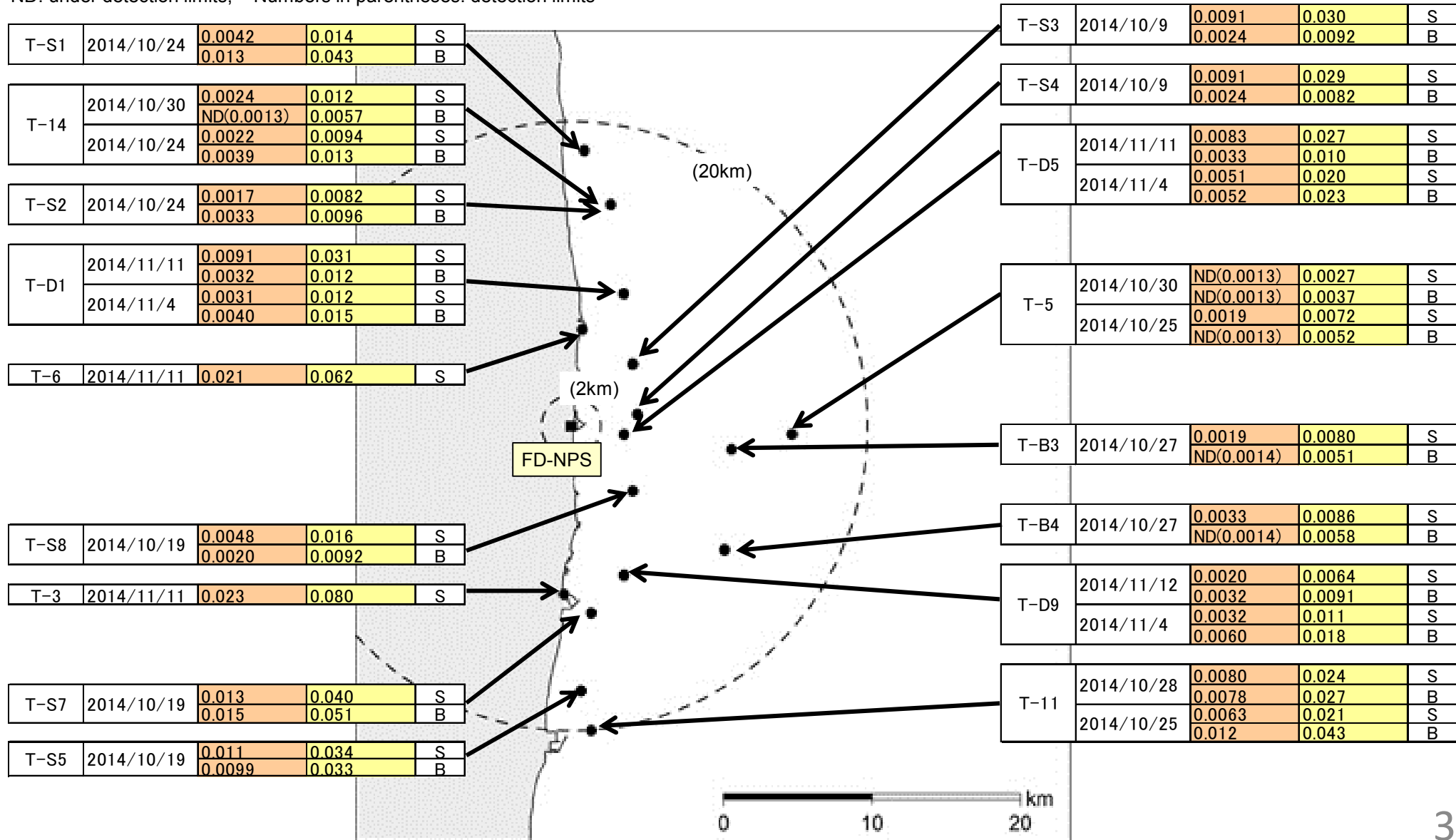
T-D1	2014/10/24	0.0026	0.011	ND(17) <sup>*1</sup>	0.49					S
	2014/10/8	0.022	0.070					ND(6.2 × 10 <sup>-6</sup> )	(5.5 ± 1.7) × 10 <sup>-6</sup>	S
	2014/10/1	0.0033	0.0087	ND(17) <sup>*1</sup>	ND(0.32)	ND(0.009)	ND(1.9)			S
T-6	2014/11/4	0.021	0.071	ND(18) <sup>*1</sup>	0.33					S
	2014/10/28	0.020	0.054	ND(17) <sup>*1</sup>	0.45					S
F-P06	2014/11/10	ND(0.065)	ND(0.065)	0.03 <sup>*2</sup>	In progress	In progress		In progress	In progress	S
	2014/10/20	ND(0.056)	ND(0.049)	0.03 <sup>*2</sup>	ND(0.45)	In progress		In progress	In progress	S
	2014/9/16	ND(0.053)	ND(0.046)	0.04 <sup>*2</sup>	ND(0.42)	0.001		ND(1.3 × 10 <sup>-5</sup> )	ND(1.0 × 10 <sup>-5</sup> )	S
M-103	2014/11/6	0.0094	0.035		In progress	In progress				0.5m
	2014/10/20	0.0068	0.020		0.10	In progress				0.5m
	2014/9/13	0.016	0.052		0.10	0.0011				0.5m
F-P04	2014/11/10	ND(0.080)	ND(0.054)	0.03 <sup>*2</sup>	In progress	In progress		In progress	In progress	S
	2014/10/20	ND(0.062)	0.092	0.03 <sup>*2</sup>	ND(0.45)	In progress		In progress	In progress	S
	2014/9/16	ND(0.061)	0.058	0.03 <sup>*2</sup>	ND(0.43)	0.005		ND(6 × 10 <sup>-6</sup> )	ND(6 × 10 <sup>-6</sup> )	S
T-5	2014/10/25	0.0019	0.0072	ND(17) <sup>*1</sup>	0.50					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
	2014/10/2	ND(0.0017)	0.0030	ND(17) <sup>*1</sup>	ND(0.32)	ND(0.009)	ND(1.9)			S
T-D5	2014/10/24	0.0045	0.010	ND(17) <sup>*1</sup>	ND(0.34)					S
	2014/10/8	0.024	0.067					ND(6.1 × 10 <sup>-6</sup> )	(8.4 ± 2.2) × 10 <sup>-6</sup>	S
	2014/10/1	ND(0.0017)	0.0057	ND(17) <sup>*1</sup>	ND(0.32)	ND(0.009)	ND(1.9)			S
M-104	2014/11/5	0.0096	0.035		In progress	In progress				0.5m
	2014/10/21	0.014	0.045		0.098	In progress				0.5m
	2014/9/12	0.030	0.094		0.15	0.0069				0.5m
F-P05	2014/11/10	ND(0.066)	ND(0.060)	0.03 <sup>*2</sup>	In progress	In progress		In progress	In progress	S
	2014/10/20	ND(0.062)	ND(0.058)	0.03 <sup>*2</sup>	ND(0.45)	In progress		In progress	In progress	S
	2014/9/16	ND(0.058)	ND(0.061)	0.04 <sup>*2</sup>	ND(0.42)	0.003		ND(8 × 10 <sup>-6</sup> )	ND(8 × 10 <sup>-6</sup> )	S
T-D9	2014/10/25	0.0066	0.020	ND(17) <sup>*1</sup>	0.52					S
	2014/10/18	0.012	0.036					ND(4.8 × 10 <sup>-6</sup> )	(5.0 ± 1.6) × 10 <sup>-6</sup>	S
	2014/10/2	0.0081	0.023	ND(17) <sup>*1</sup>	ND(0.32)	ND(0.008)	ND(1.9)			S
T-3	2014/11/4	0.025	0.073	ND(18) <sup>*1</sup>	ND(0.32)					S
	2014/10/28	0.031	0.10	ND(17) <sup>*1</sup>	0.36					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):

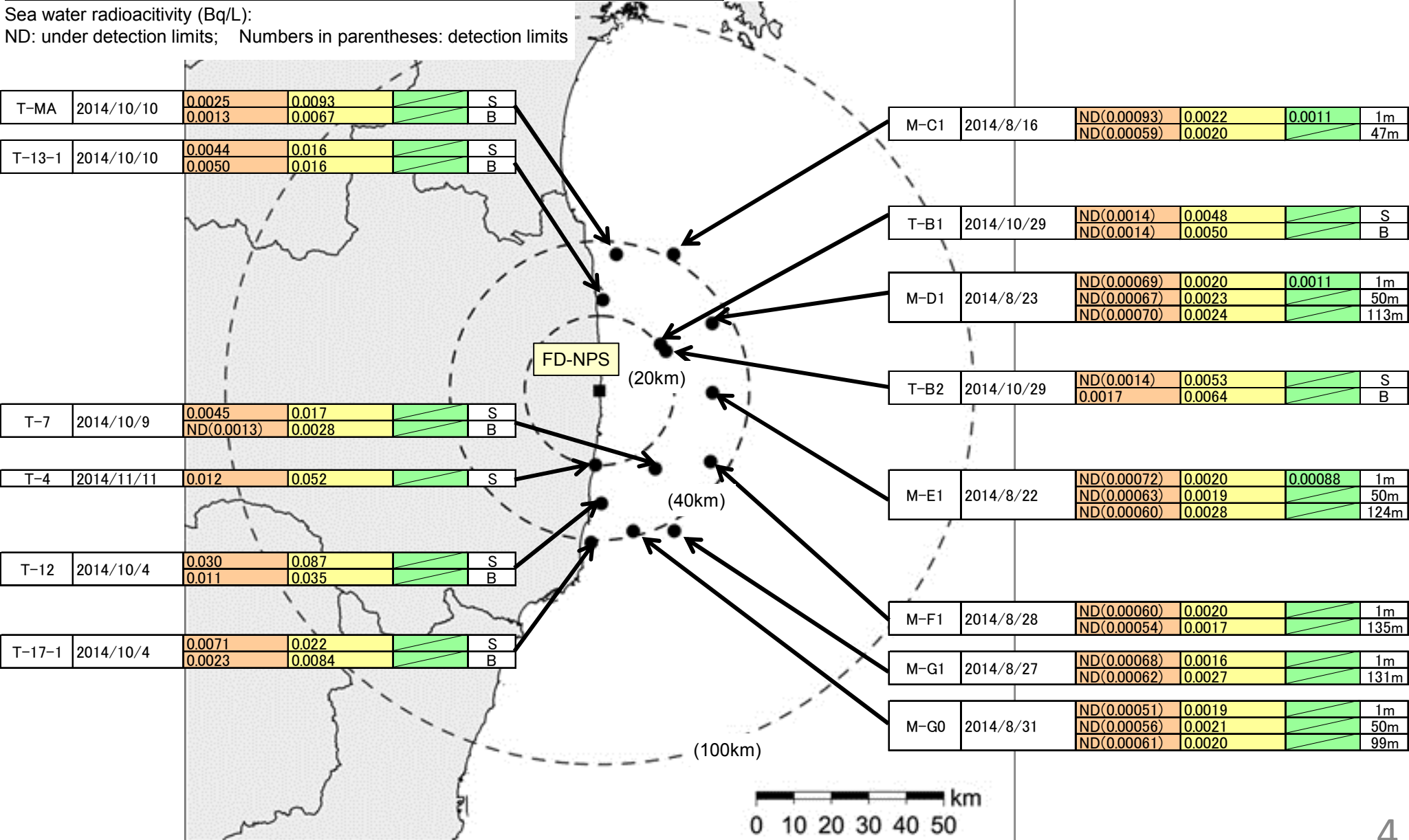
ND: under detection limits; Numbers in parentheses: detection limits



# 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 $\beta^*$	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  $\beta$ : excluding K-40

M-C3	2014/11/10	In progress	In progress	0.026	In progress	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

T-22	2014/10/10	0.0051	0.017				S
		0.0035	0.015				B

M-D3	2014/11/9	In progress	In progress	0.035	In progress	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		

M-F3	2014/11/8	In progress	In progress	0.026	In progress	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		

T-18	2014/10/9	0.0056	0.019				S
		0.0021	0.0093				B

T-20	2014/10/4	ND(0.0016)	0.0059				S
		0.0024	0.0090				B

T-M10	2014/10/9	ND(0.0013)	0.0018				S
		ND(0.0013)	0.0023				B

M-E3	2014/11/9	In progress	In progress	0.026	In progress	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		

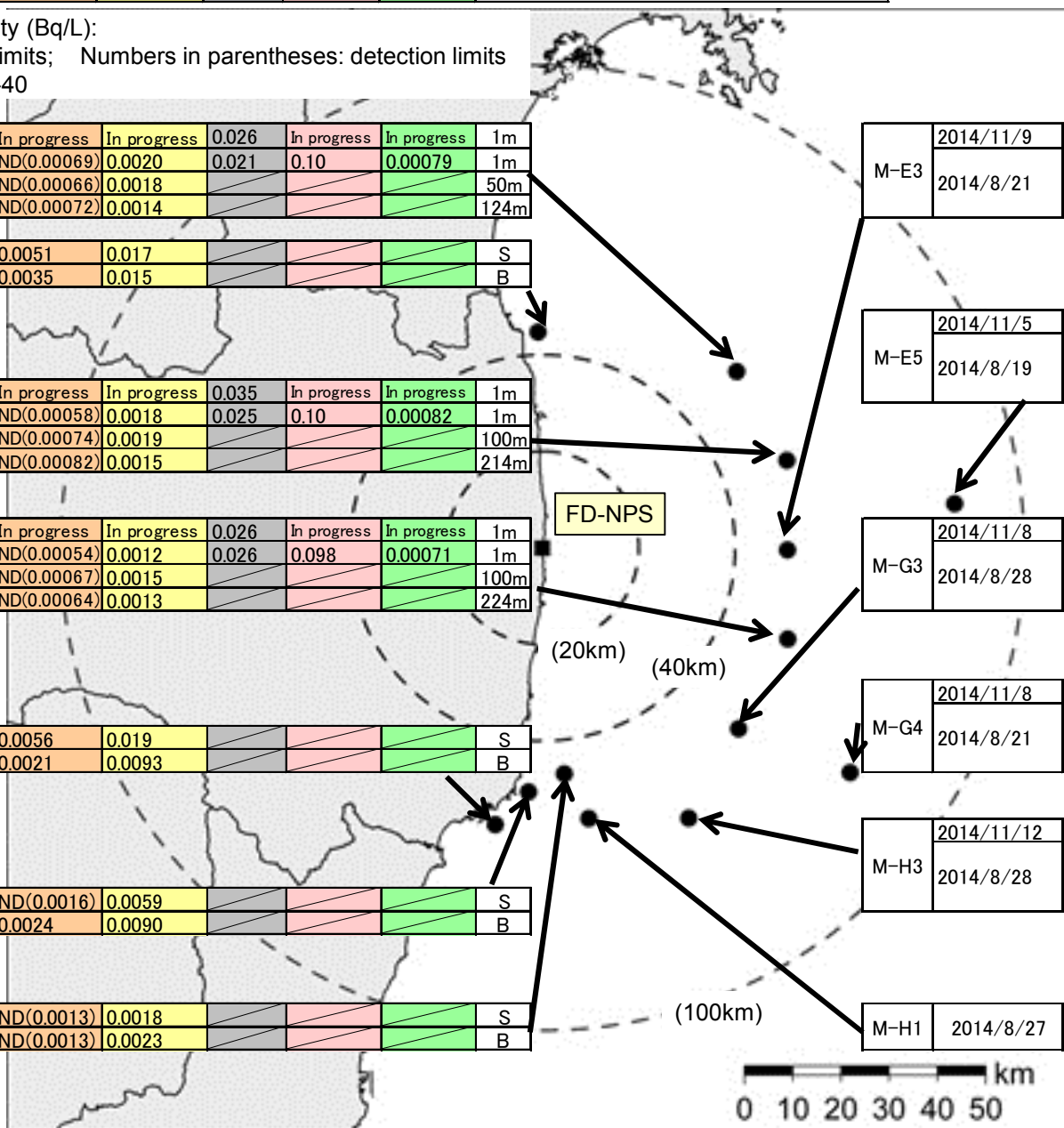
M-E5	2014/11/5	In progress	In progress	0.031	In progress	In progress	1m
	2014/8/19	ND(0.00058)	0.0013	0.025	0.095	0.00079	1m
		ND(0.00083)	0.0022				100m
ND(0.00070)	0.00095				527m		

M-G3	2014/11/8	In progress	In progress	0.034	In progress	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		

M-G4	2014/11/8	In progress	In progress	0.034	In progress	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		

M-H3	2014/11/12	In progress	In progress	0.030	In progress	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		

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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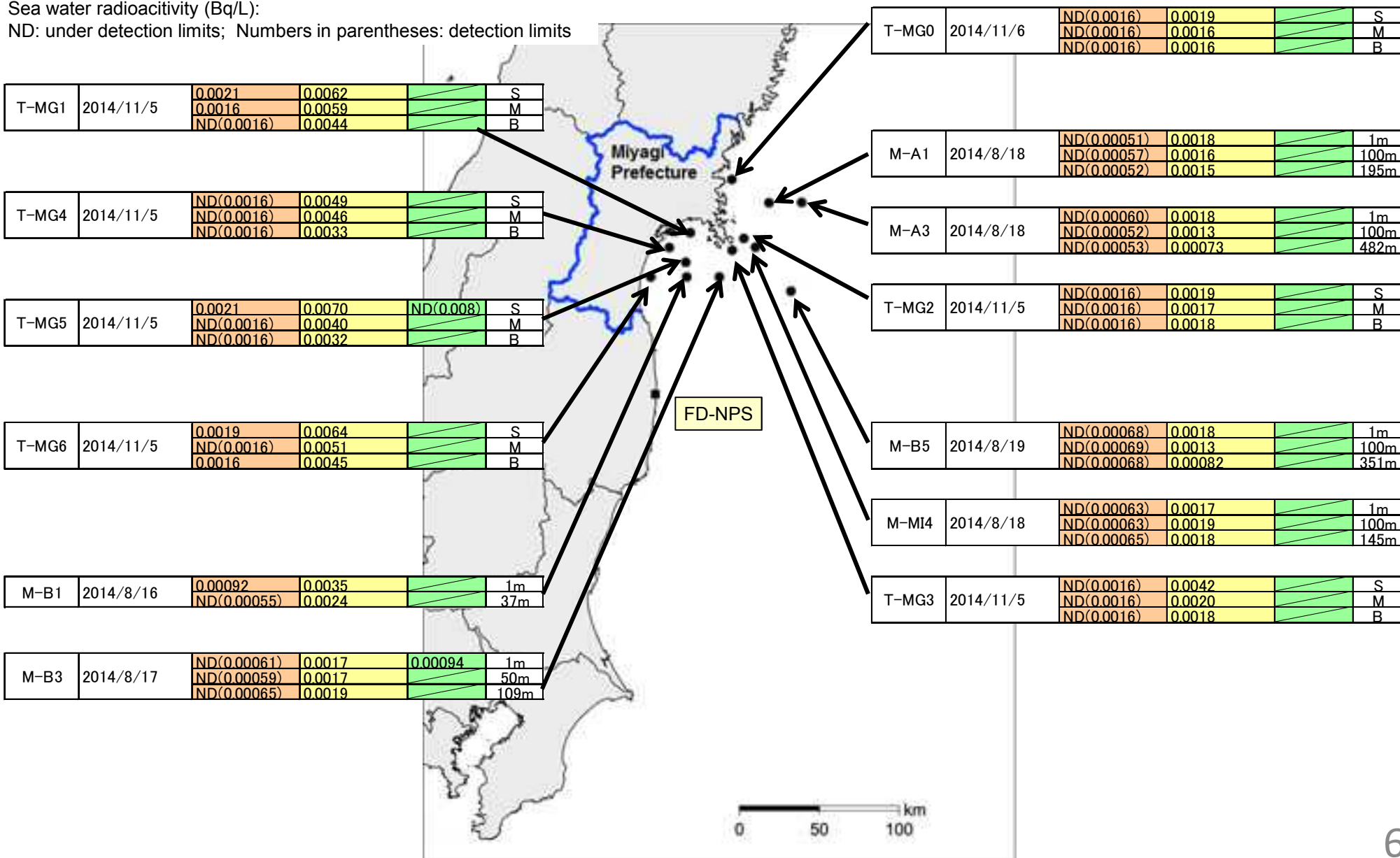
S:2m below sea level

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

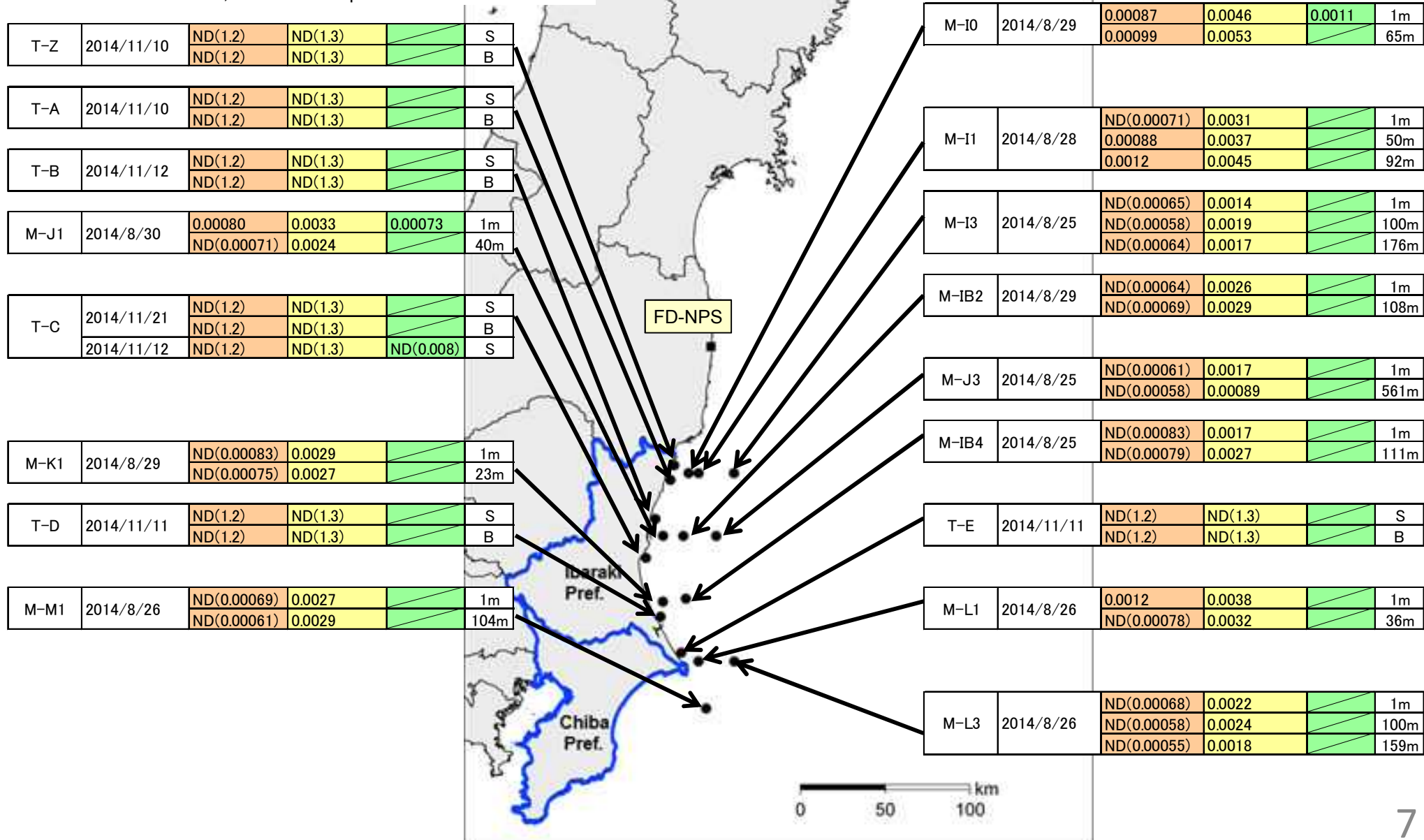


# Sea area along and off the coast of Ibaraki Pref. and Chiba Pref.

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	2014/6/18	ND(0.00054)	0.0020	1m
		ND(0.00073)	0.0017	100m
		ND(0.00052)	0.0013	200m
		ND(0.00058)	0.0011	300m
		ND(0.00051)	0.00059	500m

M-11	2014/6/18	0.00062	0.0030	1m
		0.00078	0.0028	100m
		ND(0.00052)	0.0020	200m
		ND(0.00054)	0.0014	300m
		ND(0.00059)	0.0012	500m

M-14	2014/6/19	ND(0.00056)	0.0022	1m
		ND(0.00057)	0.0018	100m
		ND(0.00053)	0.0016	200m
		ND(0.00058)	0.00093	300m
		ND(0.00059)	0.00054	500m

M-15	2014/6/19	ND(0.00056)	0.0025	1m
		ND(0.00055)	0.0021	100m
		ND(0.00060)	0.0017	200m
		ND(0.00052)	0.0012	300m
		ND(0.00061)	0.00080	500m

M-19	2014/6/20	0.00095	0.0033	1m
		ND(0.00057)	0.0020	100m
		ND(0.00063)	0.0014	200m
		ND(0.00053)	0.0012	300m
		ND(0.00057)	0.00086	500m

M-21	2014/6/21	ND(0.00057)	0.0020	1m
		ND(0.00056)	0.0029	100m
		0.00063	0.0032	200m
		ND(0.00065)	0.0021	300m
		ND(0.00053)	0.0015	500m

M-20	2014/6/21	0.00067	0.0026	1m
		ND(0.00059)	0.0028	100m
		ND(0.00073)	0.0024	200m
		ND(0.00057)	0.0015	300m
		ND(0.00055)	0.00070	500m

M-26	2014/6/23	ND(0.00056)	0.0022	1m
		ND(0.00069)	0.0031	100m
		0.00099	0.0038	200m
		0.0013	0.0047	300m
		0.00066	0.0032	500m

M-25	2014/6/24	ND(0.00057)	0.0016	1m
		ND(0.00055)	0.0019	100m
		0.00069	0.0033	200m
		0.00097	0.0043	300m
		ND(0.00060)	0.0023	500m

M-27	2014/6/22	ND(0.00057)	0.0028	1m
		ND(0.00070)	0.0027	100m
		0.0010	0.0033	200m
		ND(0.00056)	0.0035	300m
		0.0011	0.0051	500m

