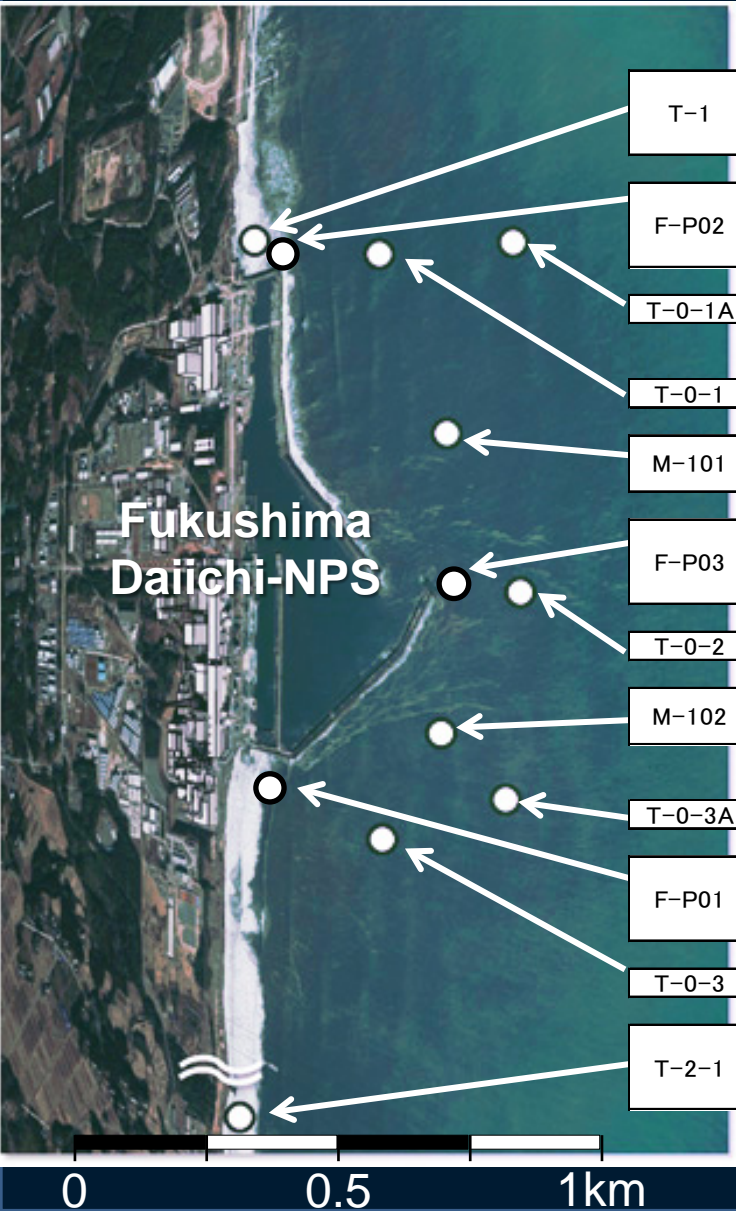


# Sea Area Monitoring

September 16, 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
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	2014/9/1	ND(0.76)	ND(0.67)	9.4* <sup>1</sup>	ND(1.9)				
	2014/7/7	ND(0.62)	ND(0.57)	11* <sup>1</sup>	ND(1.7)	0.067	ND(1.5)		
	2014/4/10	ND(0.85)	ND(0.82)					ND( $5.6 \times 10^{-6}$ )	( $9.4 \pm 2.2$ ) $\times 10^{-6}$
F-P02	2014/7/7	ND(0.062)	0.17	0.09* <sup>2</sup>	0.44	0.083		In progress	In progress
	2014/6/16	ND(0.066)	ND(0.050)	0.03* <sup>2</sup>	ND(0.41)	0.002		ND( $7 \times 10^{-6}$ )	ND( $7 \times 10^{-6}$ )
	2014/5/19	ND(0.062)	ND(0.049)	0.03* <sup>2</sup>	ND(0.42)	0.003		ND( $6 \times 10^{-6}$ )	ND( $6 \times 10^{-6}$ )
T-0-1A	2014/8/26	ND(0.52)	ND(0.53)	ND(16)* <sup>1</sup>	ND(1.7)				
T-0-1	2014/8/26	ND(0.74)	ND(0.68)	ND(16)* <sup>1</sup>	ND(1.7)				
M-101	2014/7/18	0.010	0.032		In progress	In progress			
	2014/6/17	0.012	0.039		0.12	0.0079			
F-P03	2014/7/7	0.24	0.72	0.38* <sup>2</sup>	2.6	0.66		In progress	In progress
	2014/6/16	ND(0.080)	ND(0.071)	0.03* <sup>2</sup>	ND(0.41)	0.003		ND( $1.3 \times 10^{-5}$ )	ND( $1.1 \times 10^{-5}$ )
	2014/5/19	ND(0.063)	ND(0.055)	0.05* <sup>2</sup>	ND(0.41)	0.005		ND( $1.3 \times 10^{-5}$ )	ND( $1.5 \times 10^{-5}$ )
T-0-2	2014/8/26	ND(0.59)	ND(0.72)	ND(16)* <sup>1</sup>	ND(1.7)				
M-102	2014/7/19	0.017	0.054		In progress	In progress			
	2014/6/16	0.021	0.057		0.15	0.0094			
T-0-3A	2014/8/26	ND(0.48)	ND(0.75)	ND(16)* <sup>1</sup>	ND(1.7)				
F-P01	2014/7/7	ND(0.064)	ND(0.068)	0.04* <sup>2</sup>	ND(0.42)	0.004		In progress	In progress
	2014/6/16	ND(0.056)	0.074	0.04* <sup>2</sup>	ND(0.41)	0.012		ND( $6 \times 10^{-6}$ )	ND( $6 \times 10^{-6}$ )
	2014/5/19	ND(0.056)	0.094	0.05* <sup>2</sup>	ND(0.42)	0.016		$6 \times 10^{-6}$	ND( $5 \times 10^{-6}$ )
T-0-3	2014/8/26	ND(0.84)	ND(0.69)	ND(16)* <sup>1</sup>	ND(1.7)				
T-2-1	2014/9/1	ND(0.77)	ND(0.63)	12* <sup>1</sup>	ND(1.9)				
	2014/7/7	ND(0.74)	1.2	11* <sup>1</sup>	ND(1.7)	ND(0.0088)	ND(1.5)		
	2014/4/10	ND(0.70)	ND(0.58)	9.0* <sup>1</sup>				ND( $5.6 \times 10^{-6}$ )	( $3.1 \pm 0.41$ ) $\times 10^{-5}$

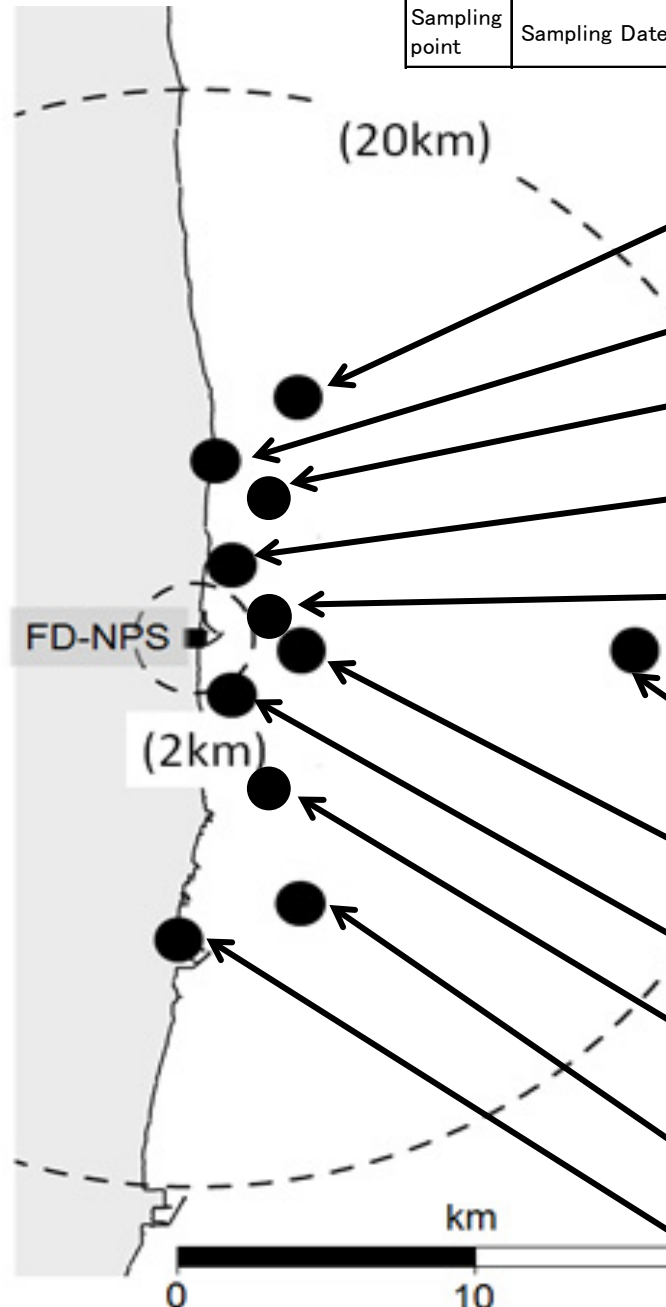
# Sea area between 2-20km radius from the NPS (1)

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
										Depth(m) from sea level	

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

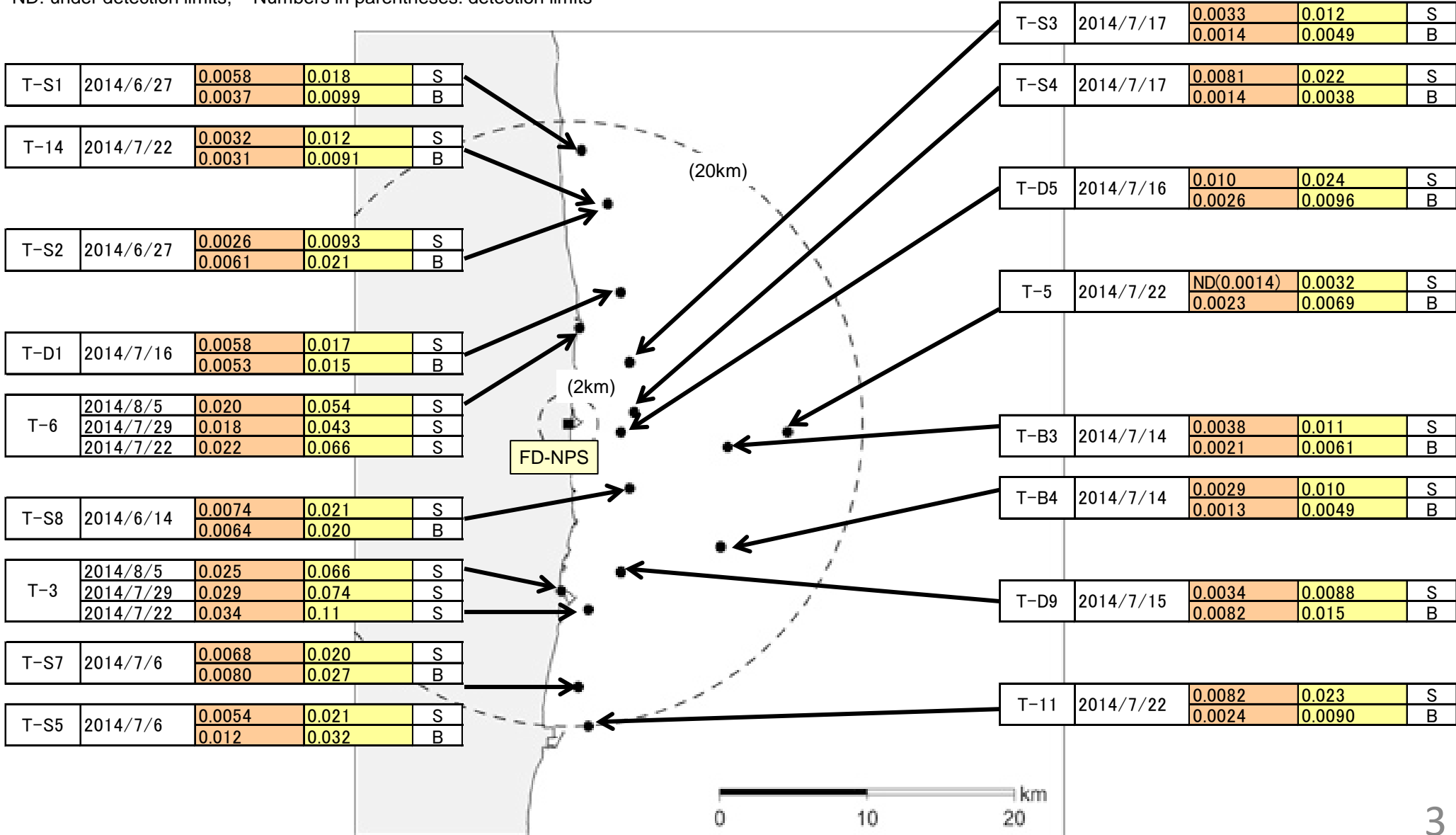


T-D1	2014/7/16	0.0058	0.017	ND(17) <sup>*1</sup>	ND(0.30)						S
	2014/7/2	0.0022	0.0082	ND(18) <sup>*1</sup>	0.36	ND(0.009)	ND(1.9)				S
	2014/4/1	0.0027	0.0086	ND(17) <sup>*1</sup>	ND(0.30)	ND(0.009)	ND(1.9)	ND(5.3 × 10 <sup>-6</sup> )	(5.7 ± 1.7) × 10 <sup>-6</sup>		S
T-6	2014/7/15	0.033	0.088	ND(18) <sup>*1</sup>	0.36						S
F-P06	2014/7/7	ND(0.056)	ND(0.051)	0.02 <sup>*2</sup>	ND(0.42)	0.003		In progress	In progress		S
	2014/6/16	ND(0.055)	ND(0.055)	0.03 <sup>*2</sup>	ND(0.40)	0.001		ND(1.4 × 10 <sup>-5</sup> )	ND(1.3 × 10 <sup>-5</sup> )		S
	2014/5/12	ND(0.058)	0.056	0.04 <sup>*2</sup>	ND(0.41)	0.031		ND(6 × 10 <sup>-6</sup> )	5 × 10 <sup>-6</sup>		S
M-103	2014/7/18	0.0038	0.012		In progress	In progress					0.5m
	2014/6/17	0.010	0.033		0.13	0.0019					0.5m
F-P04	2014/7/7	ND(0.065)	ND(0.065)	0.04 <sup>*2</sup>	ND(0.42)	0.004		In progress	In progress		S
	2014/6/16	ND(0.074)	ND(0.053)	0.03 <sup>*2</sup>	ND(0.41)	0.004		ND(6 × 10 <sup>-6</sup> )	6 × 10 <sup>-6</sup>		S
	2014/5/12	ND(0.062)	ND(0.055)	0.03 <sup>*2</sup>	ND(0.41)	0.004		ND(6 × 10 <sup>-6</sup> )	ND(6 × 10 <sup>-6</sup> )		S
T-5	2014/7/15	ND(0.0014)	0.0027	ND(17) <sup>*1</sup>	0.38						S
	2014/7/1	0.0015	0.0063	ND(18) <sup>*1</sup>	0.34	ND(0.009)	ND(1.9)				S
	2014/4/2	ND(0.0014)	0.0044	ND(17) <sup>*1</sup>	ND(0.30)	ND(0.009)	ND(1.9)	ND(5.5 × 10 <sup>-6</sup> )	(8.3 ± 2.1) × 10 <sup>-6</sup>		S
T-D5	2014/7/16	0.010	0.024	ND(17) <sup>*1</sup>	ND(0.30)						S
	2014/7/2	0.0061	0.017	ND(18) <sup>*1</sup>	ND(0.32)	ND(0.009)	ND(1.9)				S
	2014/4/1	0.0058	0.012	ND(17) <sup>*1</sup>	ND(0.30)	ND(0.009)	ND(1.9)	ND(5.2 × 10 <sup>-6</sup> )	ND(4.5 × 10 <sup>-6</sup> )		S
M-104	2014/7/19	0.0048	0.017		In progress	In progress					0.5m
	2014/6/16	0.029	0.081		0.19	0.030					0.5m
F-P05	2014/7/7	ND(0.056)	ND(0.059)	0.04 <sup>*2</sup>	ND(0.41)	0.006		In progress	In progress		S
	2014/6/16	ND(0.060)	ND(0.076)	0.03 <sup>*2</sup>	ND(0.41)	0.001		ND(6 × 10 <sup>-6</sup> )	6 × 10 <sup>-6</sup>		S
	2014/5/12	ND(0.056)	ND(0.060)	0.03 <sup>*2</sup>	ND(0.42)	0.003		ND(6 × 10 <sup>-6</sup> )	6 × 10 <sup>-6</sup>		S
T-D9	2014/7/15	0.0034	0.0088	ND(15) <sup>*1</sup>	0.38						S
	2014/7/1	0.0089	0.026	ND(16) <sup>*1</sup>	0.35	ND(0.009)	ND(1.9)				S
	2014/4/2	0.0041	0.010	ND(16) <sup>*1</sup>	ND(0.30)	ND(0.008)	ND(1.9)	ND(4.7 × 10 <sup>-6</sup> )	ND(4.5 × 10 <sup>-6</sup> )		S
T-3	2014/7/15	0.026	0.070	ND(18) <sup>*1</sup>	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				

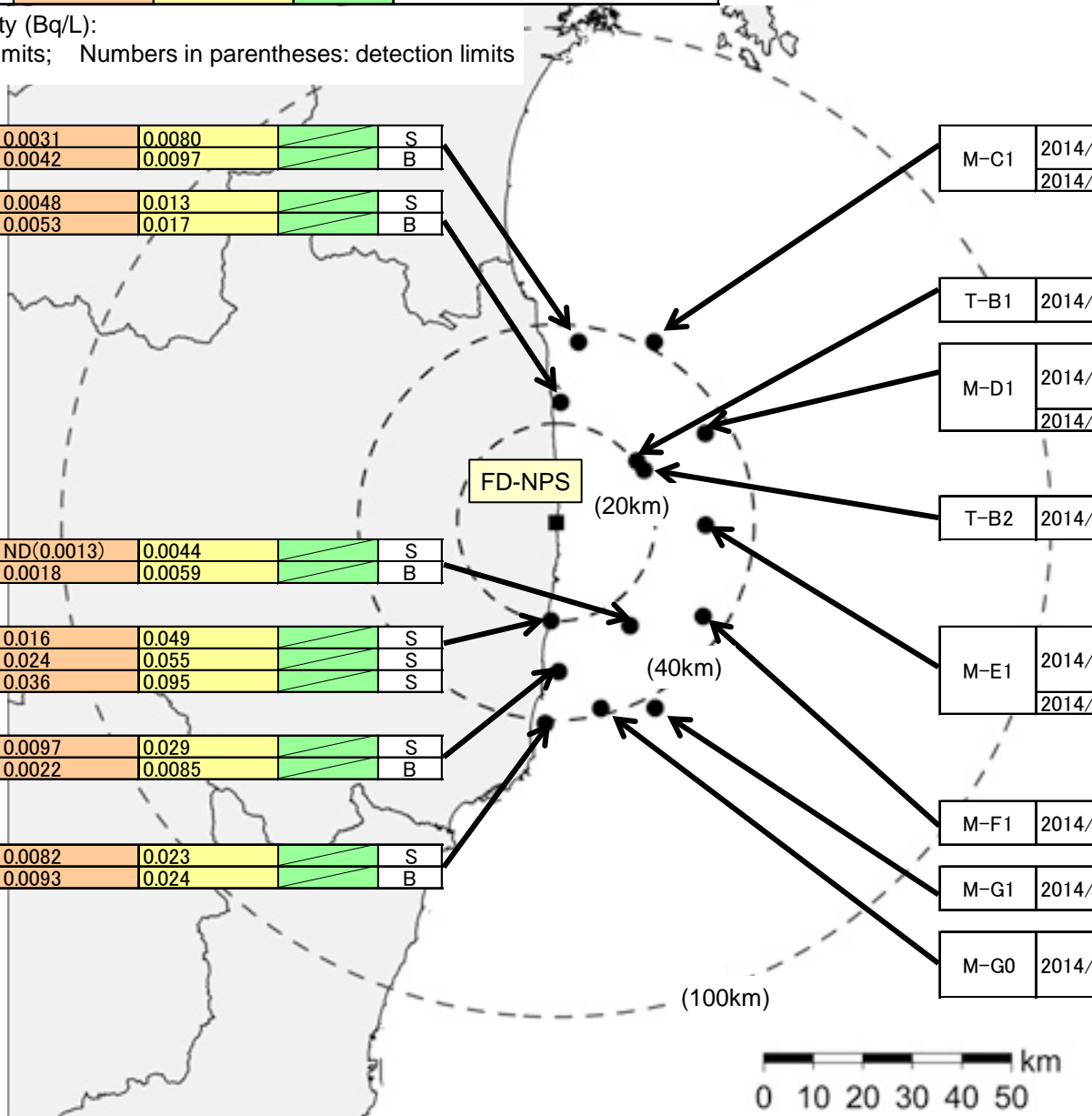
Sea water radioactivity (Bq/L):  
 ND: under detection limits; Numbers in parentheses: detection limits



# 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



T-MA	2014/6/11	0.0031	0.0080		S
		0.0042	0.0097		B
T-13-1	2014/6/11	0.0048	0.013		S
		0.0053	0.017		B

M-C1	2014/5/13	0.0013	0.0039		1m
		0.0015	0.0050		46m
	2014/1/26	0.00096	0.0034	0.00090	1m

T-B1	2014/6/25	0.0031	0.011		S
		0.0030	0.010		B

M-D1	2014/5/20	0.0017	0.0048		1m
		0.0016	0.0051		50m
		ND(0.00056)	0.0023		116m
	2014/1/23	0.00094	0.0033	0.00085	1m

T-B2	2014/6/25	0.0049	0.015		S
		0.0093	0.029		B

T-7	2014/7/15	ND(0.0013)	0.0044		S
		0.0018	0.0059		B

M-E1	2014/5/17	0.0012	0.0046		1m
		0.00096	0.0036		50m
		ND(0.00059)	0.0020		125m
	2014/1/23	ND(0.00059)	0.0027	0.00081	1m

T-4	2014/8/5	0.016	0.049		S
		0.024	0.055		S
		0.036	0.095		S

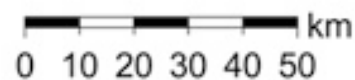
T-12	2014/7/5	0.0097	0.029		S
		0.0022	0.0085		B

M-F1	2014/5/17	0.0016	0.0049		1m
		ND(0.00068)	0.0020		133m

T-17-1	2014/7/5	0.0082	0.023		S
		0.0093	0.024		B

M-G1	2014/5/24	ND(0.00055)	0.0015		1m
		ND(0.00065)	0.0019		129m

M-G0	2014/5/24	ND(0.00055)	0.0017		1m
		ND(0.00064)	0.0028		50m
		0.00068	0.0036		93m



# 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	2014/5/13	0.0017	0.0063	0.024	0.11	In progress	1m
		0.00071	0.0023				50m
	2014/1/19	ND(0.00061)	0.0015				124m
	2014/1/19	0.00086	0.0024	0.021	0.045	0.0011	1m

T-22	2014/6/11	0.0051	0.013				S
		0.0055	0.017				B

M-D3	2014/5/16	0.0017	0.0061	0.018	0.080	In progress	1m
		ND(0.00061)	0.0020				100m
	2014/1/22	ND(0.00061)	0.0014				210m
	2014/1/22	ND(0.00064)	0.0025	0.021	0.073	0.00099	1m

M-F3	2014/5/18	0.0016	0.0048	0.027	0.089	In progress	1m
		ND(0.00057)	0.0015				100m
	2014/1/22	ND(0.00066)	0.0015				222m
	2014/1/22	ND(0.00058)	0.0020	0.027	0.066	0.0011	1m

T-18	2014/7/15	0.0020	0.0075				S
		0.0025	0.010				B

T-20	2014/7/5	0.0023	0.010				S
		0.0039	0.012				B

T-M10	2014/7/15	0.0032	0.0081				S
		ND(0.0013)	0.0035				B

M-E3	2014/5/18	0.0015	0.0038	0.024	0.10	In progress	1m
		ND(0.00064)	0.0019				100m
	2014/1/22	ND(0.00064)	0.0014				218m
	2014/1/22	ND(0.00055)	0.0018	0.030	0.056	0.00099	1m

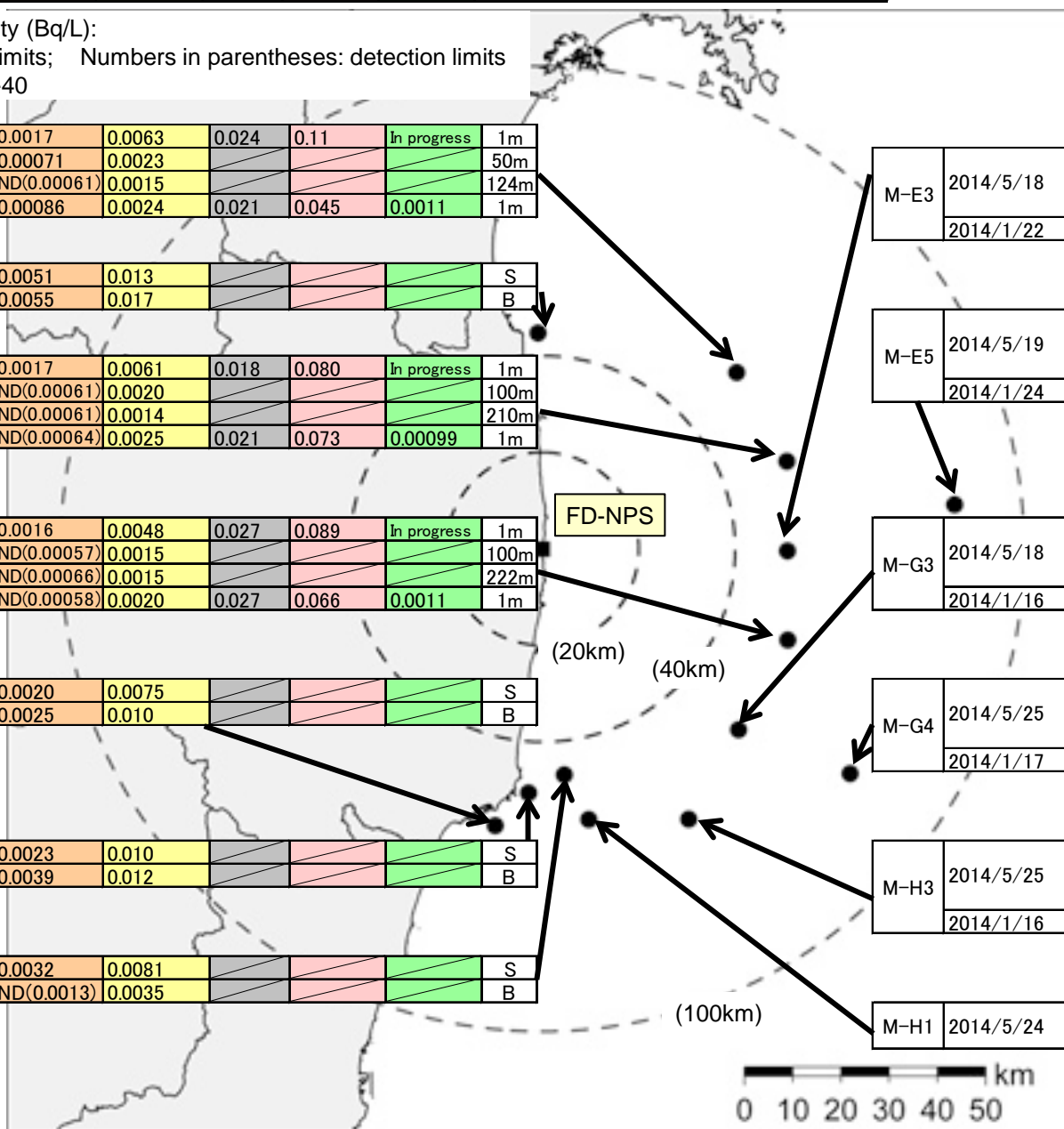
M-E5	2014/5/19	ND(0.00059)	0.0015	0.021	0.076	In progress	1m
		ND(0.00056)	0.0018				100m
	2014/1/24	ND(0.00075)	0.00062				522m
	2014/1/24	ND(0.00071)	0.0024	0.031	0.055	0.0011	1m

M-G3	2014/5/18	0.0011	0.0029	0.027	0.076	In progress	1m
		ND(0.00056)	0.0016				100m
	2014/1/16	ND(0.00064)	0.0016				196m
	2014/1/16	ND(0.00071)	0.0017	0.021	0.097	0.0011	1m

M-G4	2014/5/25	ND(0.00063)	0.0028	0.024	0.059	In progress	1m
		ND(0.00059)	0.0016				100m
	2014/1/17	ND(0.00080)	0.00057				645m
	2014/1/17	ND(0.00063)	0.0019	0.023	0.063	0.0010	1m

M-H3	2014/5/25	ND(0.00060)	0.0021	0.020	0.084	In progress	1m
		ND(0.00056)	0.0017				100m
	2014/1/16	ND(0.00053)	0.0017				214m
	2014/1/16	ND(0.00087)	0.0018	0.025	0.077	0.0010	1m

M-H1	2014/5/24	0.0016	0.0049				1m
		ND(0.00059)	0.0020				121m



# 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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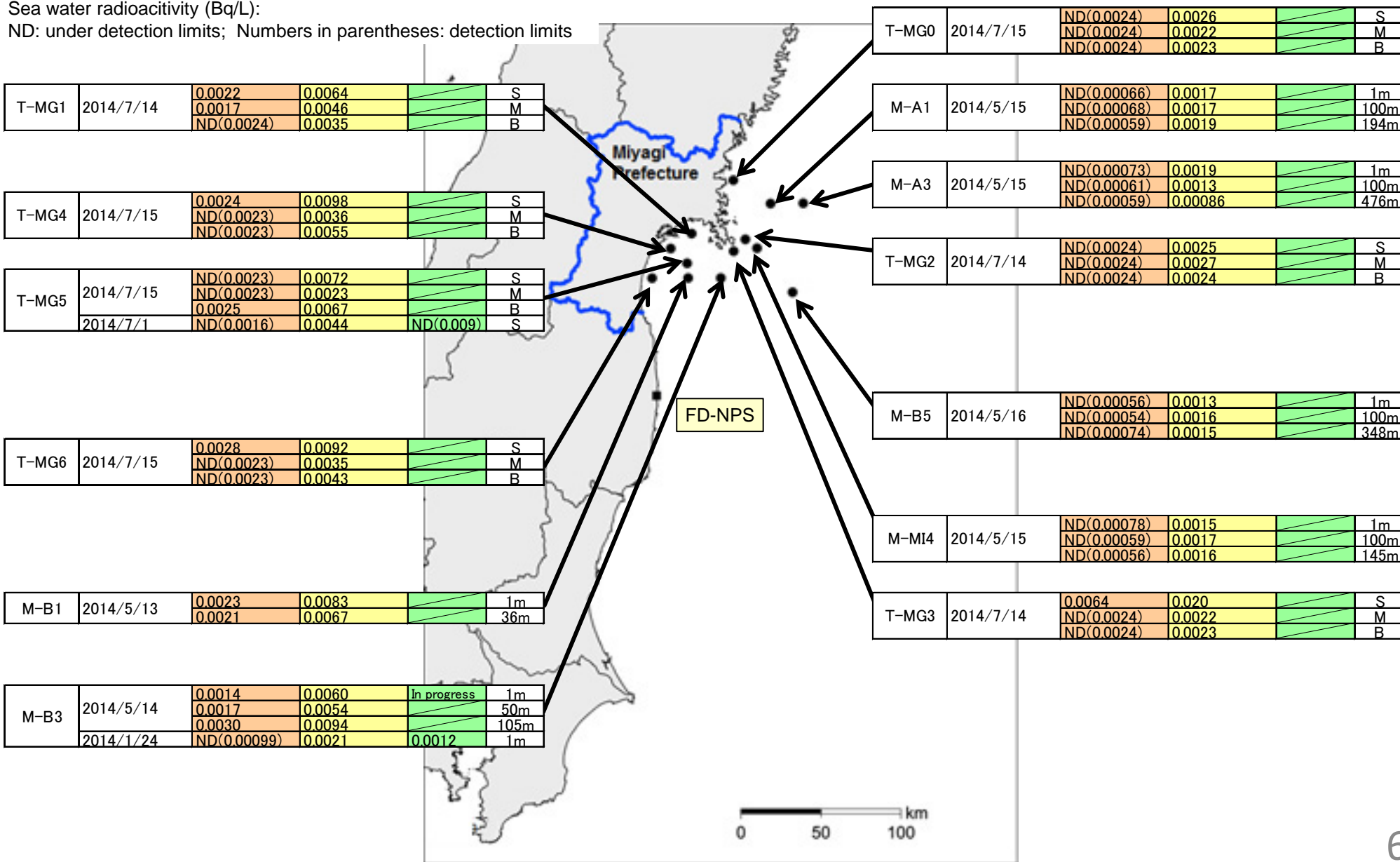
S:2m below sea level

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

T-Z	2014/8/19	ND(1.1)	ND(1.3)	S	1m
		ND(1.1)	ND(1.3)		

T-A	2014/8/19	ND(1.1)	ND(1.3)	S	1m
		ND(1.1)	ND(1.3)		

T-B	2014/8/20	ND(1.1)	ND(1.3)	S	1m
		ND(1.1)	ND(1.3)		

M-J1	2014/5/27	0.0015	0.0053	In progress	1m
		0.0015	0.0045		39m
	2014/1/13	0.0027	0.0076	0.00079	1m

T-C	2014/8/20	ND(1.1)	ND(1.3)	S	1m
		ND(1.1)	ND(1.3)		
	2014/7/8	ND(1.2)	ND(1.3)	ND(0.009)	S

M-K1	2014/5/27	0.00084	0.0035	S	1m
		0.0012	0.0040		

T-D	2014/8/19	ND(1.1)	ND(1.3)	S	1m
		ND(1.1)	ND(1.3)		

M-M1	2014/5/29	ND(0.00074)	0.0025	S	1m
		ND(0.00057)	0.0029		

M-I0	2014/5/26	0.0015	0.0054	S	1m
		0.0014	0.0046		

M-I1	2014/5/26	0.0015	0.0056	S	1m	
		0.0027	0.0062			50m
		0.00070	0.0034			89m

M-I3	2014/5/26	ND(0.00079)	0.0022	S	1m	
		ND(0.00059)	0.0017			100m
		ND(0.00074)	0.0019			170m

M-IB2	2014/5/27	0.0019	0.0076	In progress	1m
		ND(0.00075)	0.0025		104m
	2014/1/12	0.00092	0.0029	0.0011	1m

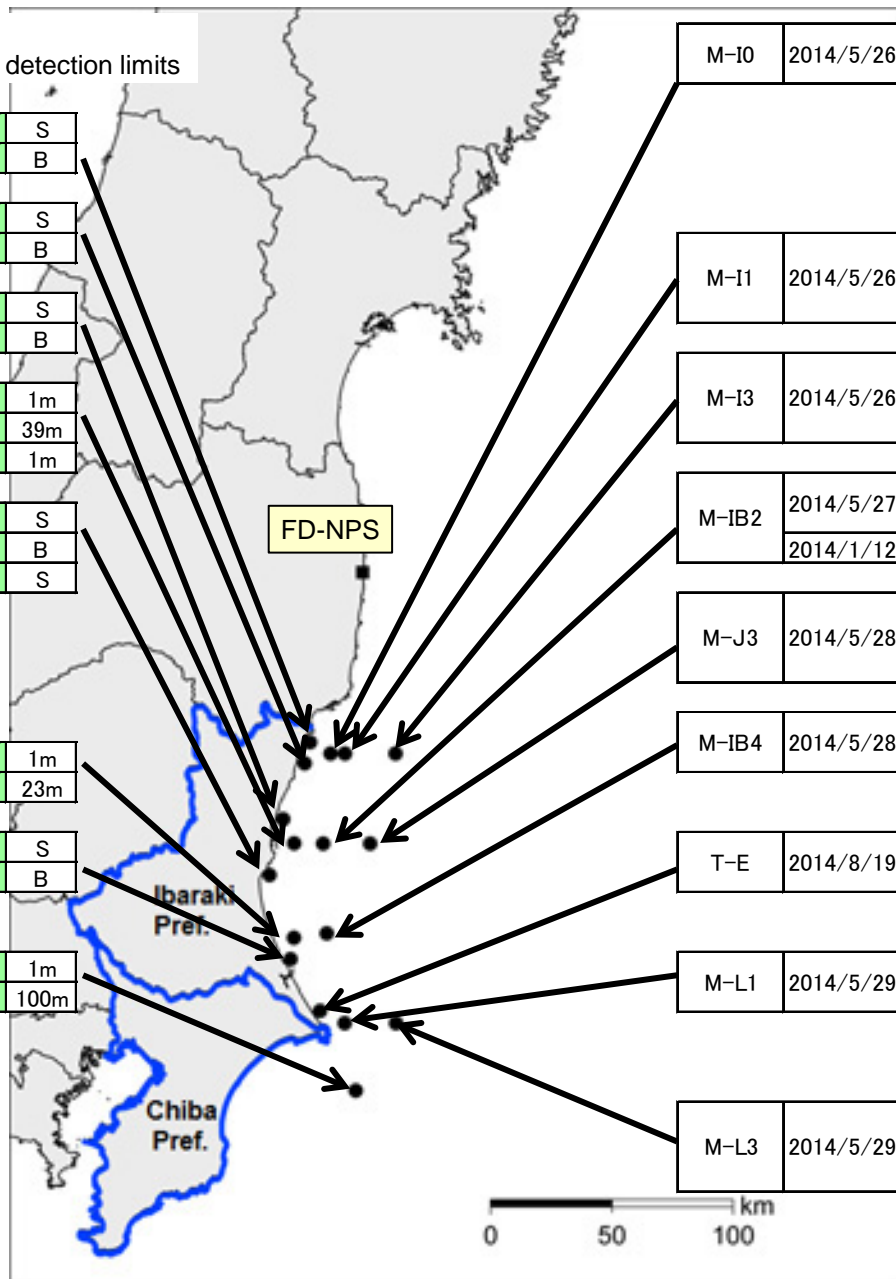
M-J3	2014/5/28	0.00084	0.0032	S	1m	
		ND(0.00061)	0.0015			100m
		ND(0.00054)	0.00055			548m

M-IB4	2014/5/28	0.0017	0.0055	S	1m
		0.0012	0.0039		

T-E	2014/8/19	ND(1.1)	ND(1.3)	S	1m
		ND(1.1)	ND(1.3)		

M-L1	2014/5/29	ND(0.00062)	0.0030	S	1m
		0.00080	0.0032		

M-L3	2014/5/29	0.00062	0.0026	S	1m	
		ND(0.00064)	0.0027			100m
		ND(0.00063)	0.0027			154m





# 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-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-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-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-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

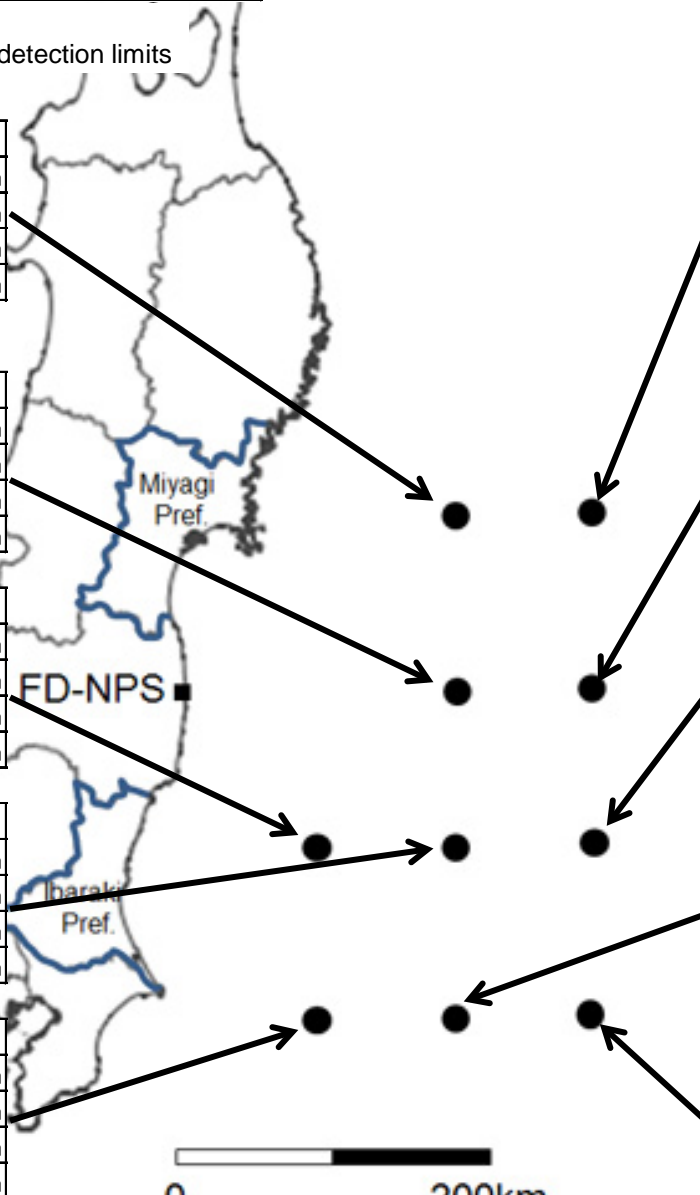
M-11	2014/6/18	0.00062	0.0030	1m
		0.00078	0.0028	100m
		ND(0.00052)	0.0020	200m
		ND(0.00054)	0.0014	300m
		ND(0.00059)	0.0012	500m

M-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-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-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-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



0 200km