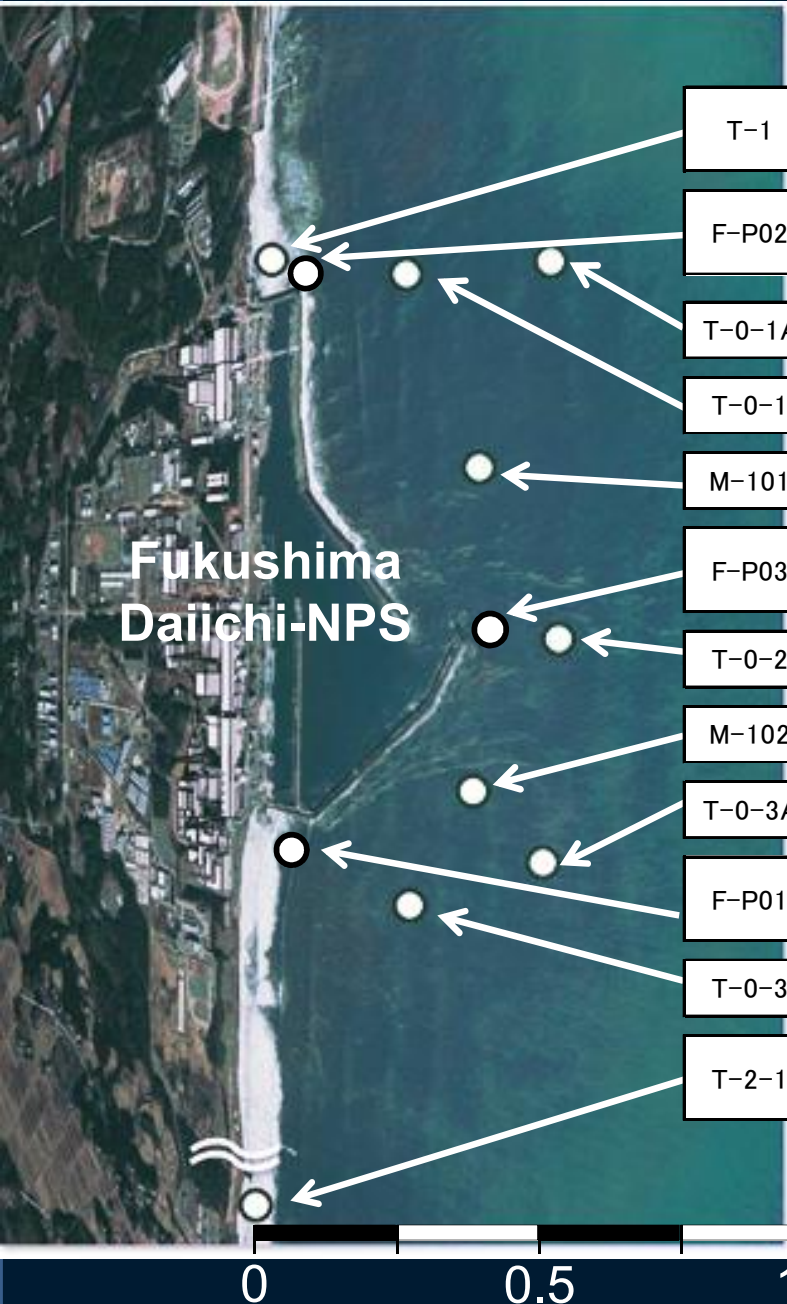


# Sea Area Monitoring

February 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 $\beta$	H-3	Sr-90	total $\alpha$	Pu-238	Pu-239+Pu-240
T-1	2015/2/2	ND(0.73)	ND(0.72)	12 <sup>*1</sup>	ND(1.5)				
	2015/1/5	ND(0.74)	ND(0.53)	9.9 <sup>*1</sup>	ND(1.5)	0.032	ND(1.6)		
	2014/10/21	ND(0.69)	ND(0.83)					ND( $5.1 \times 10^{-6}$ )	ND( $7 \times 10^{-6}$ )
F-P02	2015/1/14	ND(0.070)	0.069	0.05 <sup>*2</sup>	ND(0.44)	In progress		In progress	In progress
	2014/12/8	ND(0.060)	0.095	0.06 <sup>*2</sup>	ND(0.43)	0.024		In progress	In progress
	2014/11/10	0.066	0.18	0.04 <sup>*2</sup>	ND(0.43)	0.039		ND( $7 \times 10^{-6}$ )	ND( $1.0 \times 10^{-5}$ )
T-0-1A	2015/2/3	ND(0.56)	ND(0.73)	ND(18) <sup>*1</sup>	In progress				
	2015/1/26	ND(0.70)	ND(0.74)	ND(15) <sup>*1</sup>	ND(1.4)				
T-0-1	2015/2/3	ND(0.67)	ND(0.65)	ND(18) <sup>*1</sup>	In progress				
	2015/1/26	ND(0.44)	ND(0.70)	ND(15) <sup>*1</sup>	ND(1.4)				
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	2015/1/14	ND(0.070)	0.082	0.12 <sup>*2</sup>	ND(0.44)	In progress		In progress	In progress
	2014/12/8	ND(0.065)	ND(0.062)	0.05 <sup>*2</sup>	ND(0.43)	0.008		In progress	In progress
	2014/11/10	0.13	0.36	0.17 <sup>*2</sup>	1.7	0.14		ND( $8 \times 10^{-6}$ )	ND( $7 \times 10^{-6}$ )
T-0-2	2015/2/3	ND(0.60)	ND(0.72)	ND(18) <sup>*1</sup>	In progress				
	2015/1/26	ND(0.76)	ND(0.67)	ND(15) <sup>*1</sup>	ND(1.4)				
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	2015/2/3	ND(0.89)	ND(0.64)	ND(18) <sup>*1</sup>	In progress				
	2015/1/26	ND(0.87)	ND(0.78)	ND(15) <sup>*1</sup>	ND(1.4)				
F-P01	2015/1/14	ND(0.059)	ND(0.051)	0.04 <sup>*2</sup>	ND(0.43)	In progress		In progress	In progress
	2014/12/8	ND(0.067)	0.091	0.06 <sup>*2</sup>	ND(0.43)	0.007		In progress	In progress
	2014/11/10	ND(0.065)	0.098	0.03 <sup>*2</sup>	0.48	0.006		ND( $8 \times 10^{-6}$ )	ND( $6 \times 10^{-6}$ )
T-0-3	2015/2/3	ND(0.70)	ND(0.76)	ND(18) <sup>*1</sup>	In progress				
	2015/1/26	ND(0.77)	ND(0.65)	ND(15) <sup>*1</sup>	ND(1.4)				
T-2-1	2015/2/2	ND(0.77)	ND(0.65)	13 <sup>*1</sup>	ND(1.5)				
	2015/1/5	ND(0.83)	ND(0.59)	11 <sup>*1</sup>	ND(1.5)	0.013	ND(1.6)		
	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 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

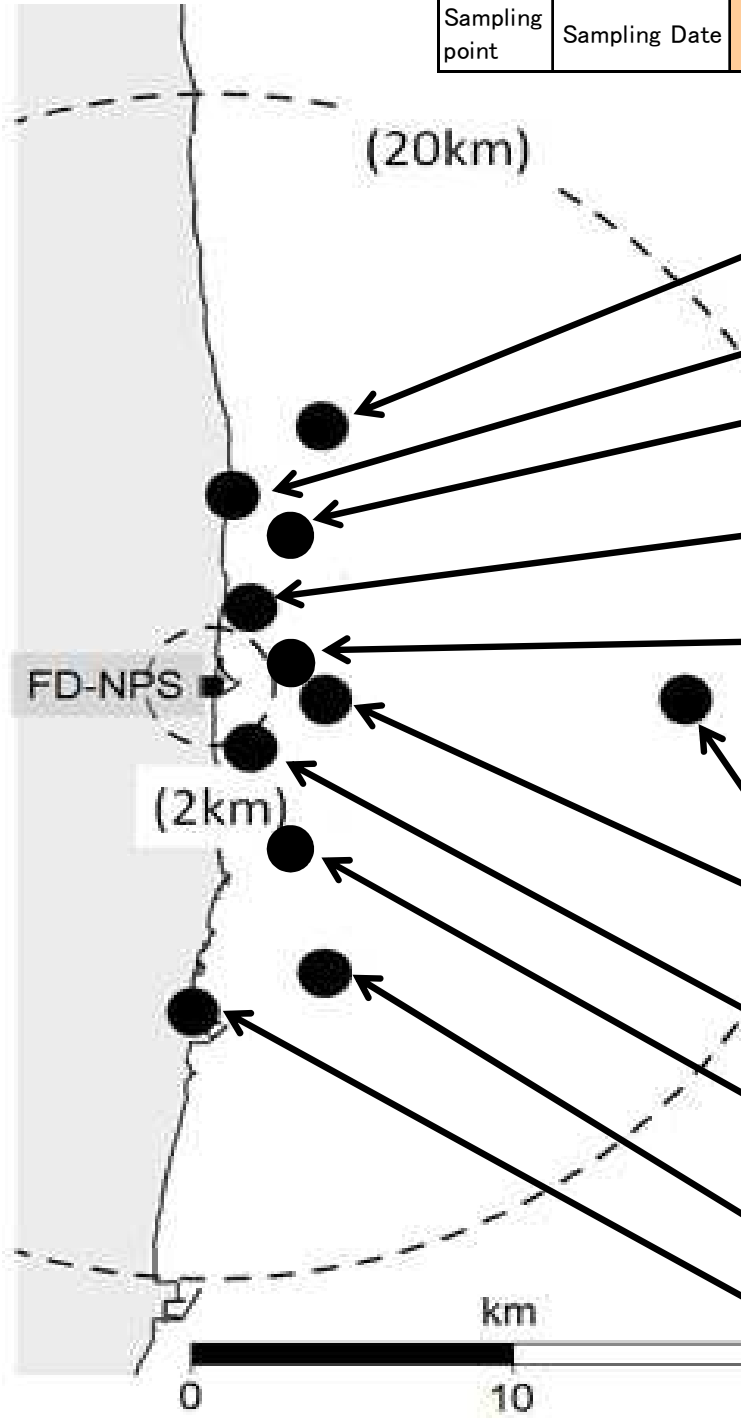
# Sea area between 2-20km radius from the NPS (1)

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

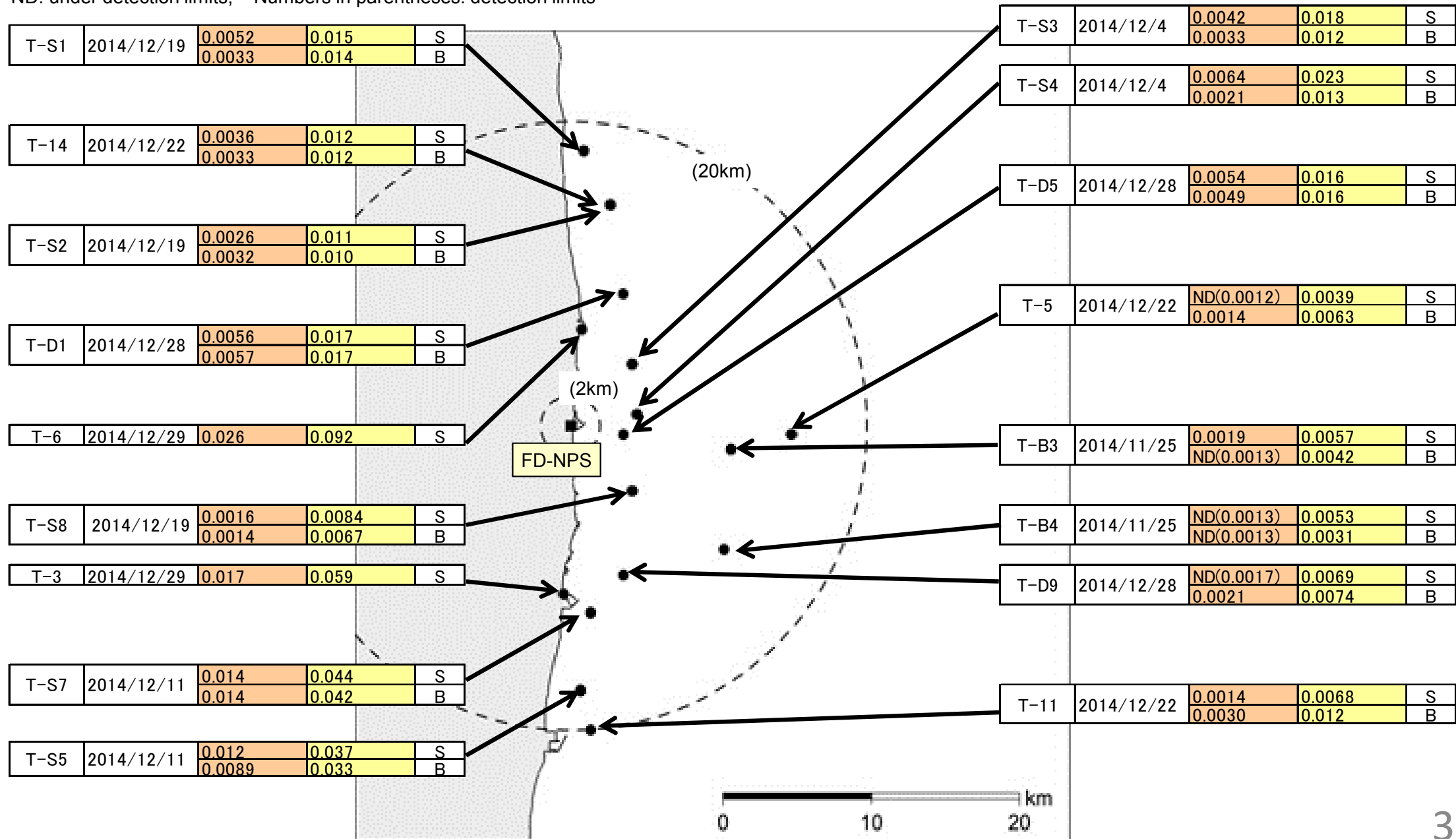


T-D1	2014/12/16	0.0090	0.033	ND(17) <sup>*1</sup>	ND(0.30)						S
	2014/12/6	0.0020	0.0094	ND(17) <sup>*1</sup>	ND(0.31)	ND(0.0085)	ND(1.6)				S
	2014/10/8	0.022	0.070						ND( $6.2 \times 10^{-6}$ )	( $5.5 \pm 1.7$ ) $\times 10^{-6}$	S
T-6	2014/12/16	0.019	0.068	ND(16) <sup>*1</sup>	ND(0.34)						S
F-P06	2015/1/14	ND(0.058)	ND(0.049)	0.03 <sup>*2</sup>	ND(0.44)	In progress			In progress	In progress	S
	2014/12/8	ND(0.070)	ND(0.064)	0.03 <sup>*2</sup>	ND(0.43)	0.002			In progress	In progress	S
	2014/11/10	ND(0.065)	ND(0.065)	0.03 <sup>*2</sup>	ND(0.43)	0.001			ND( $1.0 \times 10^{-5}$ )	ND( $6 \times 10^{-6}$ )	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	2015/1/14	ND(0.074)	ND(0.065)	0.04 <sup>*2</sup>	ND(0.44)	In progress			In progress	In progress	S
	2014/12/8	ND(0.058)	0.13	0.04 <sup>*2</sup>	ND(0.43)	0.007			In progress	In progress	S
	2014/11/10	ND(0.080)	ND(0.054)	0.03 <sup>*2</sup>	ND(0.42)	0.005			ND( $8 \times 10^{-6}$ )	ND( $8 \times 10^{-6}$ )	S
T-5	2014/12/15	ND(0.0013)	0.0035	ND(17) <sup>*1</sup>	ND(0.30)						S
	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( $5.4 \times 10^{-6}$ )	( $6.6 \pm 1.8$ ) $\times 10^{-6}$	S
T-D5	2014/12/16	0.017	0.050	ND(17) <sup>*1</sup>	ND(0.30)						S
	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( $6.1 \times 10^{-6}$ )	( $8.4 \pm 2.2$ ) $\times 10^{-6}$	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	2015/1/14	ND(0.061)	ND(0.060)	0.04 <sup>*2</sup>	ND(0.44)	In progress			In progress	In progress	S
	2014/12/8	ND(0.057)	ND(0.065)	0.03 <sup>*2</sup>	ND(0.44)	0.003			In progress	In progress	S
	2014/11/10	ND(0.066)	ND(0.060)	0.03 <sup>*2</sup>	ND(0.42)	0.004			ND( $6 \times 10^{-6}$ )	ND( $8 \times 10^{-6}$ )	S
T-D9	2014/12/22	ND(0.0017)	0.0069	ND(17) <sup>*1</sup>	ND(0.30)						S
	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( $4.8 \times 10^{-6}$ )	( $5.0 \pm 1.6$ ) $\times 10^{-6}$	S
T-3	2014/12/16	0.022	0.079	ND(17) <sup>*1</sup>	ND(0.35)						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	2014/12/19	0.0052	0.015	S
		0.0033	0.014	B

T-14	2014/12/22	0.0036	0.012	S
		0.0033	0.012	B

T-S2	2014/12/19	0.0026	0.011	S
		0.0032	0.010	B

T-D1	2014/12/28	0.0056	0.017	S
		0.0057	0.017	B

T-6	2014/12/29	0.026	0.092	S
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T-S8	2014/12/19	0.0016	0.0084	S
		0.0014	0.0067	B

T-3	2014/12/29	0.017	0.059	S
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T-S7	2014/12/11	0.014	0.044	S
		0.014	0.042	B

T-S5	2014/12/11	0.012	0.037	S
		0.0089	0.033	B

T-S3	2014/12/4	0.0042	0.018	S
		0.0033	0.012	B

T-S4	2014/12/4	0.0064	0.023	S
		0.0021	0.013	B

T-D5	2014/12/28	0.0054	0.016	S
		0.0049	0.016	B

T-5	2014/12/22	ND(0.0012)	0.0039	S
		0.0014	0.0063	B

T-B3	2014/11/25	0.0019	0.0057	S
		ND(0.0013)	0.0042	B

T-B4	2014/11/25	ND(0.0013)	0.0053	S
		ND(0.0013)	0.0031	B

T-D9	2014/12/28	ND(0.0017)	0.0069	S
		0.0021	0.0074	B

T-11	2014/12/22	0.0014	0.0068	S
		0.0030	0.012	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

T-MA	2014/12/15	ND(0.0014)	0.0072		S
		0.0022	0.0071		B

T-13-1	2014/12/15	0.0032	0.015		S
		0.0038	0.012		B

T-7	2014/12/15	0.0012	0.0035		S
		ND(0.0013)	0.0064		B

T-4	2014/12/29	0.012	0.043		S
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T-12	2014/12/23	0.0033	0.014		S
		0.0018	0.0088		B

T-17-1	2014/12/23	0.0055	0.016		S
		0.0034	0.012		B

M-C1	2014/8/16	ND(0.00093)	0.0022	0.0011	1m
		ND(0.00059)	0.0020		47m

T-B1	2014/12/16	ND(0.0014)	0.0049		S
		ND(0.0014)	0.0058		B

M-D1	2014/8/23	ND(0.00069)	0.0020	0.0011	1m
		ND(0.00067)	0.0023		50m
		ND(0.00070)	0.0024		113m

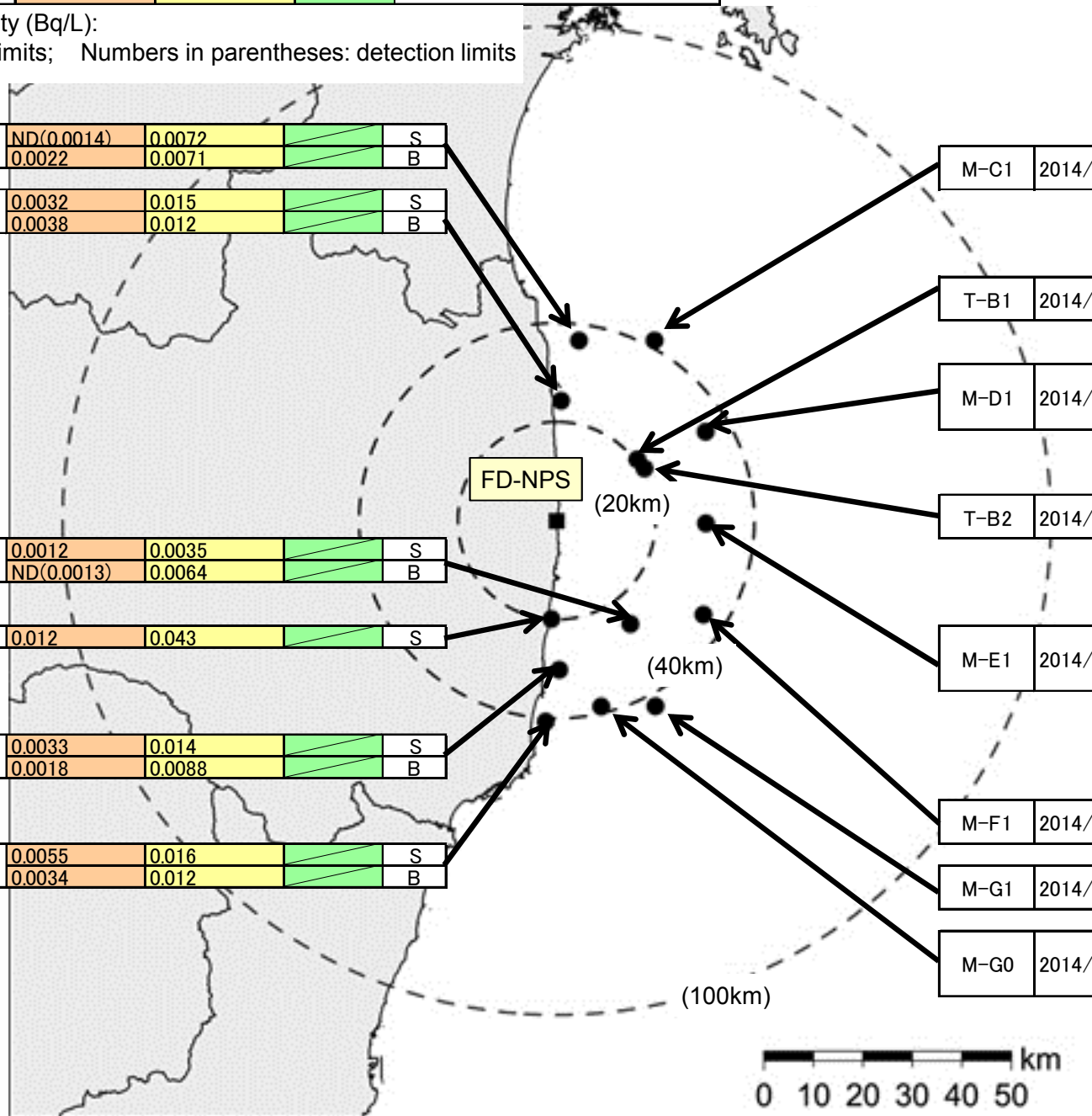
T-B2	2014/12/16	0.0019	0.0074		S
		ND(0.0013)	0.0074		B

M-E1	2014/8/22	ND(0.00072)	0.0020	0.00088	1m
		ND(0.00063)	0.0019		50m
		ND(0.00060)	0.0028		124m

M-F1	2014/8/28	ND(0.00060)	0.0020		1m
		ND(0.00054)	0.0017		135m

M-G1	2014/8/27	ND(0.00068)	0.0016		1m
		ND(0.00062)	0.0027		131m

M-G0	2014/8/31	ND(0.00051)	0.0019		1m
		ND(0.00056)	0.0021		50m
		ND(0.00061)	0.0020		99m



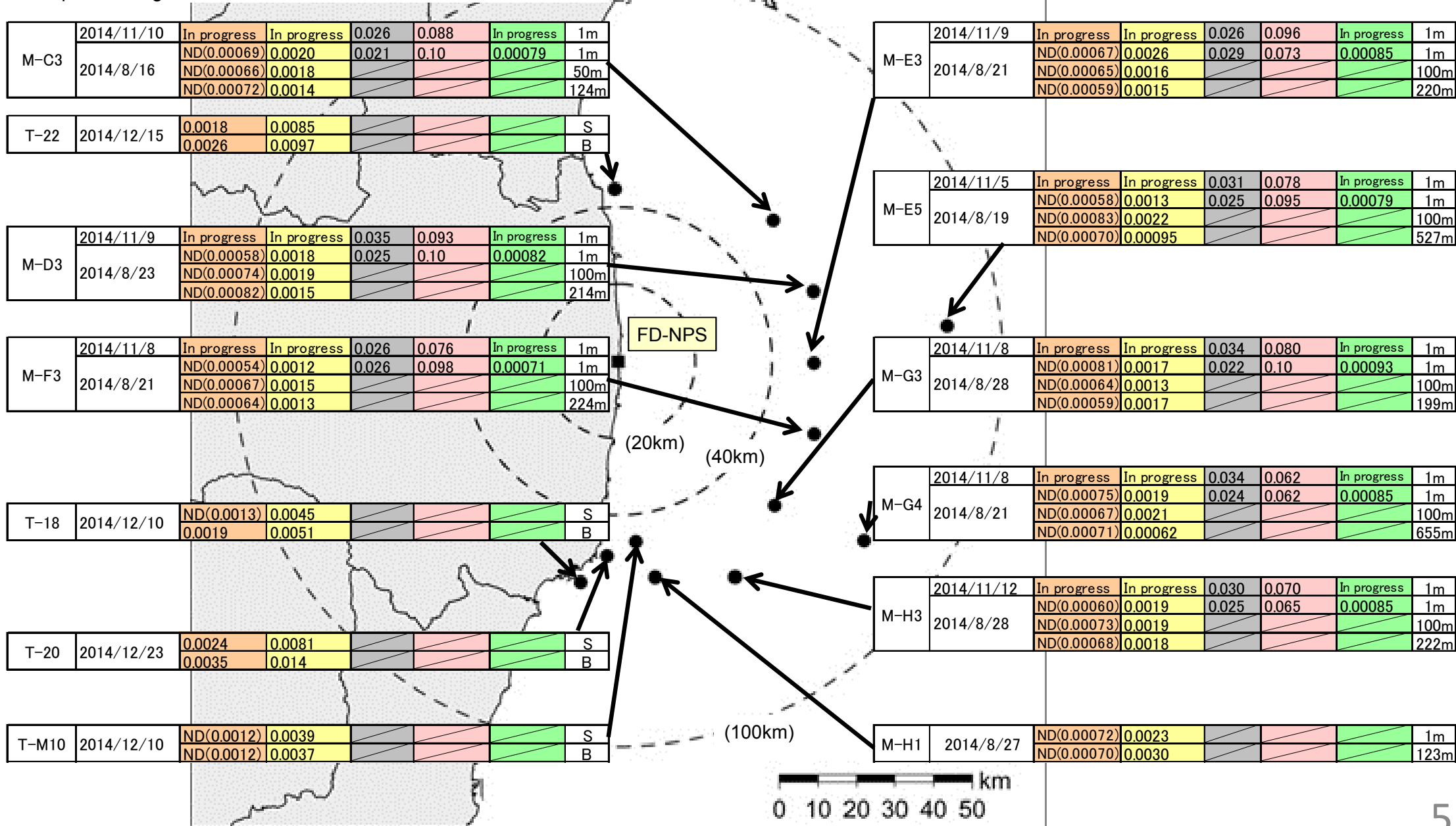
# Sea area between 20-100km radius from the NPS(2)

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
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Sea water radioactivity (Bq/L):

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

\*Total β: excluding K-40

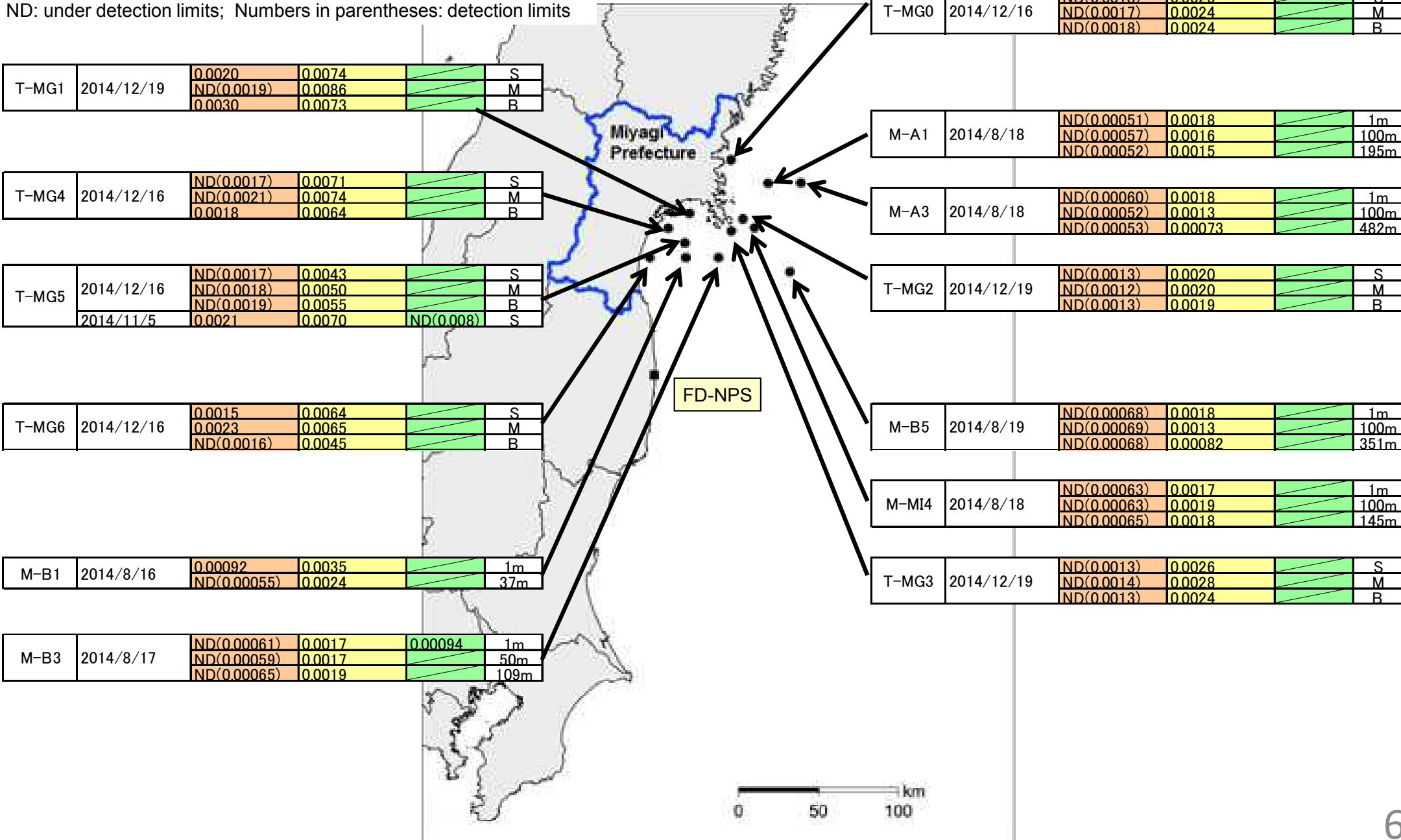


# Sea area along and off the coast of Miyagi Prefecture

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	2015/1/13	ND(1.0)	ND(1.0)	/	S
		ND(1.1)	ND(1.1)		B

T-A	2015/1/13	ND(0.94)	ND(1.2)	/	S
		ND(1.1)	ND(1.2)		B

T-B	2015/1/15	ND(0.99)	ND(1.0)	/	S
		ND(0.93)	ND(1.1)		B

M-J1	2014/8/30	0.00080	0.0033	0.00073	1m
		ND(0.00071)	0.0024	/	40m

T-C	2015/1/14	ND(1.1)	ND(1.2)	/	S
		ND(0.90)	ND(1.1)		B
	2014/11/12	ND(1.2)	ND(1.3)	ND(0.008)	S

M-K1	2014/8/29	ND(0.00083)	0.0029	/	1m
		ND(0.00075)	0.0027		23m

T-D	2015/1/15	ND(1.2)	ND(1.1)	/	S
		ND(1.3)	ND(1.1)		B

M-M1	2014/8/26	ND(0.00069)	0.0027	/	1m
		ND(0.00061)	0.0029		104m

M-I0	2014/8/29	0.00087	0.0046	0.0011	1m
		0.00099	0.0053	/	65m

M-I1	2014/8/28	ND(0.00071)	0.0031	/	1m
		0.00088	0.0037		50m
		0.0012	0.0045		92m

M-I3	2014/8/25	ND(0.00065)	0.0014	/	1m
		ND(0.00058)	0.0019		100m
		ND(0.00064)	0.0017		176m

M-IB2	2014/8/29	ND(0.00064)	0.0026	/	1m
		ND(0.00069)	0.0029		108m

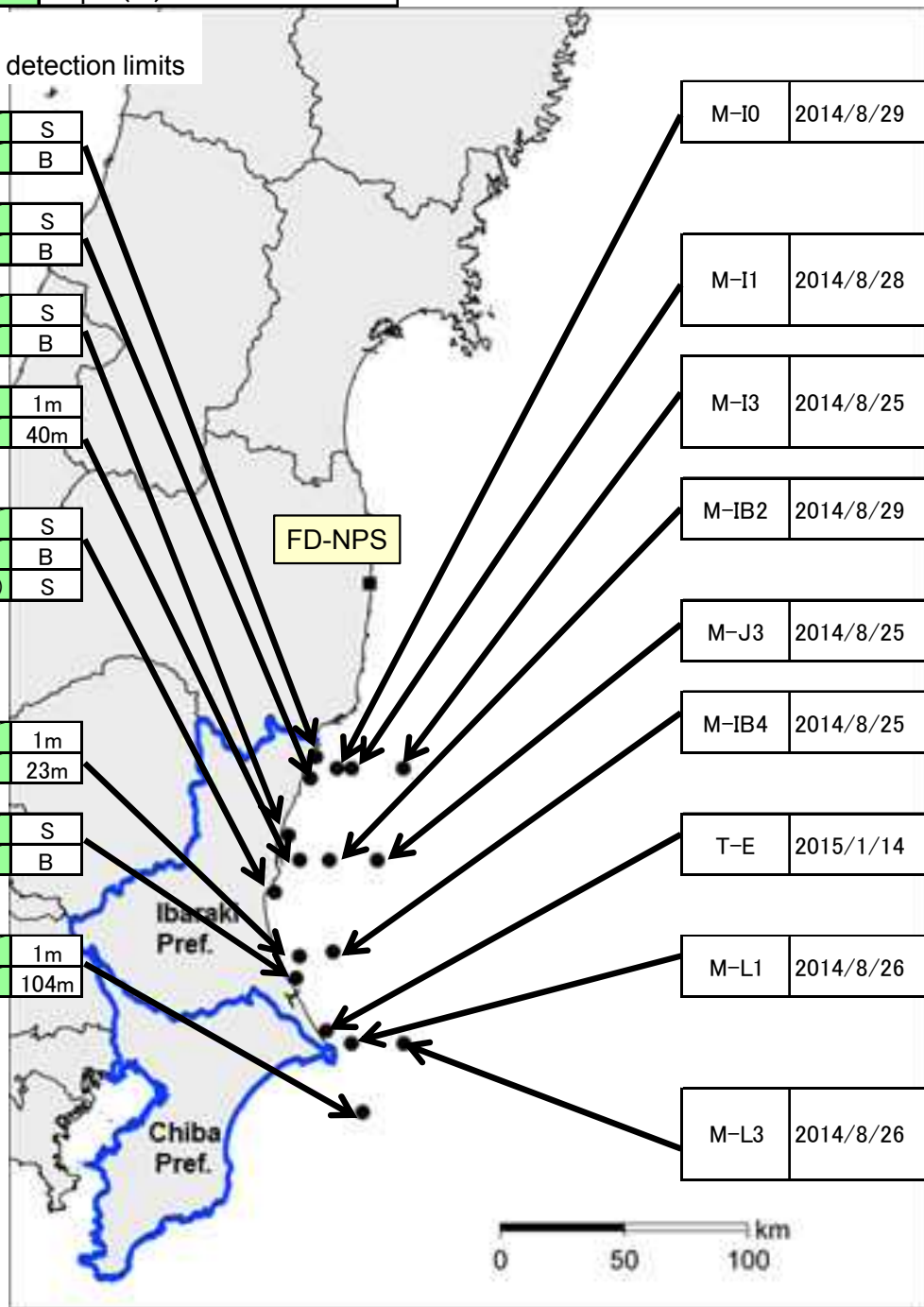
M-J3	2014/8/25	ND(0.00061)	0.0017	/	1m
		ND(0.00058)	0.00089		561m

M-IB4	2014/8/25	ND(0.00083)	0.0017	/	1m
		ND(0.00079)	0.0027		111m

T-E	2015/1/14	ND(1.1)	ND(1.0)	/	S
		ND(0.84)	ND(1.2)		B

M-L1	2014/8/26	0.0012	0.0038	/	1m
		ND(0.00078)	0.0032		36m

M-L3	2014/8/26	ND(0.00068)	0.0022	/	1m
		ND(0.00058)	0.0024		100m
		ND(0.00055)	0.0018		159m





# 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-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-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-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-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-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-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-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-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-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

