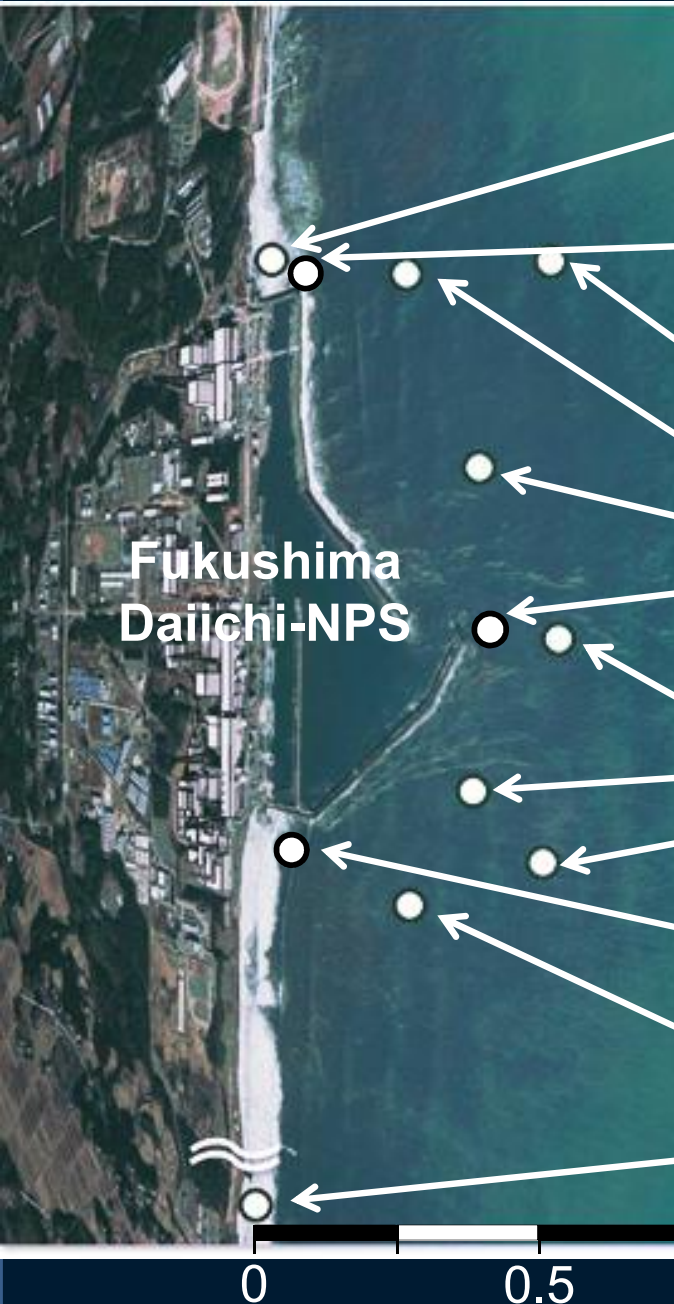


# Sea Area Monitoring

April 7, 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+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	2015/3/23	ND(0.87)	ND(0.81)	11 <sup>*1</sup>	2.6				
	2015/2/9	ND(0.84)	ND(0.78)	13 <sup>*1</sup>	ND(1.5)	0.12	ND(1.6)		
	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	2015/3/3	ND(0.072)	0.094	0.06 <sup>*2</sup>	In progress	In progress		In progress	In progress
	2015/2/10	ND(0.069)	ND(0.054)	0.04 <sup>*2</sup>	ND(0.42)	0.008		In progress	In progress
	2015/1/14	ND(0.070)	0.069	0.05 <sup>*2</sup>	ND(0.44)	0.047		ND( $7 \times 10^{-6}$ )	$7 \times 10^{-6}$
T-0-1A	2015/3/23	ND(0.55)	ND(0.65)	17 <sup>*1</sup>	In progress				
	2015/3/16	ND(0.68)	ND(0.64)	ND(16) <sup>*1</sup>	ND(1.6)				
T-0-1	2015/3/23	ND(0.71)	ND(0.74)	18 <sup>*1</sup>	In progress				
	2015/3/16	ND(0.69)	ND(0.65)	ND(16) <sup>*1</sup>	ND(1.6)				
M-101	2015/1/8	0.039	0.14		0.46	0.10			
F-P03	2015/3/3	0.079	0.23	0.14 <sup>*2</sup>	In progress	In progress		In progress	In progress
	2015/2/10	0.097	0.16	0.18 <sup>*2</sup>	0.59	0.47		In progress	In progress
	2015/1/14	ND(0.070)	0.082	0.12 <sup>*2</sup>	ND(0.44)	0.052		ND( $6 \times 10^{-6}$ )	ND( $7 \times 10^{-6}$ )
T-0-2	2015/3/23	ND(0.66)	ND(0.67)	ND(15) <sup>*1</sup>	In progress				
	2015/3/16	ND(0.72)	ND(0.57)	ND(16) <sup>*1</sup>	ND(1.6)				
M-102	2015/1/9	0.033	0.11		0.52	0.11			
T-0-3A	2015/3/23	ND(0.74)	ND(0.59)	ND(15) <sup>*1</sup>	In progress				
	2015/3/16	ND(0.61)	ND(0.70)	ND(16) <sup>*1</sup>	ND(1.6)				
F-P01	2015/3/3	ND(0.068)	0.075	0.04 <sup>*2</sup>	In progress	In progress		In progress	In progress
	2015/2/10	ND(0.059)	0.070	0.06 <sup>*2</sup>	ND(0.43)	0.038		In progress	In progress
	2015/1/14	ND(0.059)	ND(0.051)	0.04 <sup>*2</sup>	ND(0.43)	0.008		ND( $8 \times 10^{-6}$ )	ND( $6 \times 10^{-6}$ )
T-0-3	2015/3/23	ND(0.73)	ND(0.90)	15 <sup>*1</sup>	In progress				
	2015/3/16	ND(0.73)	ND(0.72)	ND(16) <sup>*1</sup>	ND(1.6)				
T-2-1	2015/3/23	ND(0.54)	ND(0.58)	9.0 <sup>*1</sup>	3.8				
	2015/2/9	ND(0.81)	0.98	13 <sup>*1</sup>	ND(1.5)	0.012	ND(1.6)		
	2014/10/21	ND(0.81)	1.1	11 <sup>*1</sup>				ND( $5.3 \times 10^{-6}$ )	( $1.2 \pm 0.25$ ) $\times 10^{-5}$

0      0.5      1km

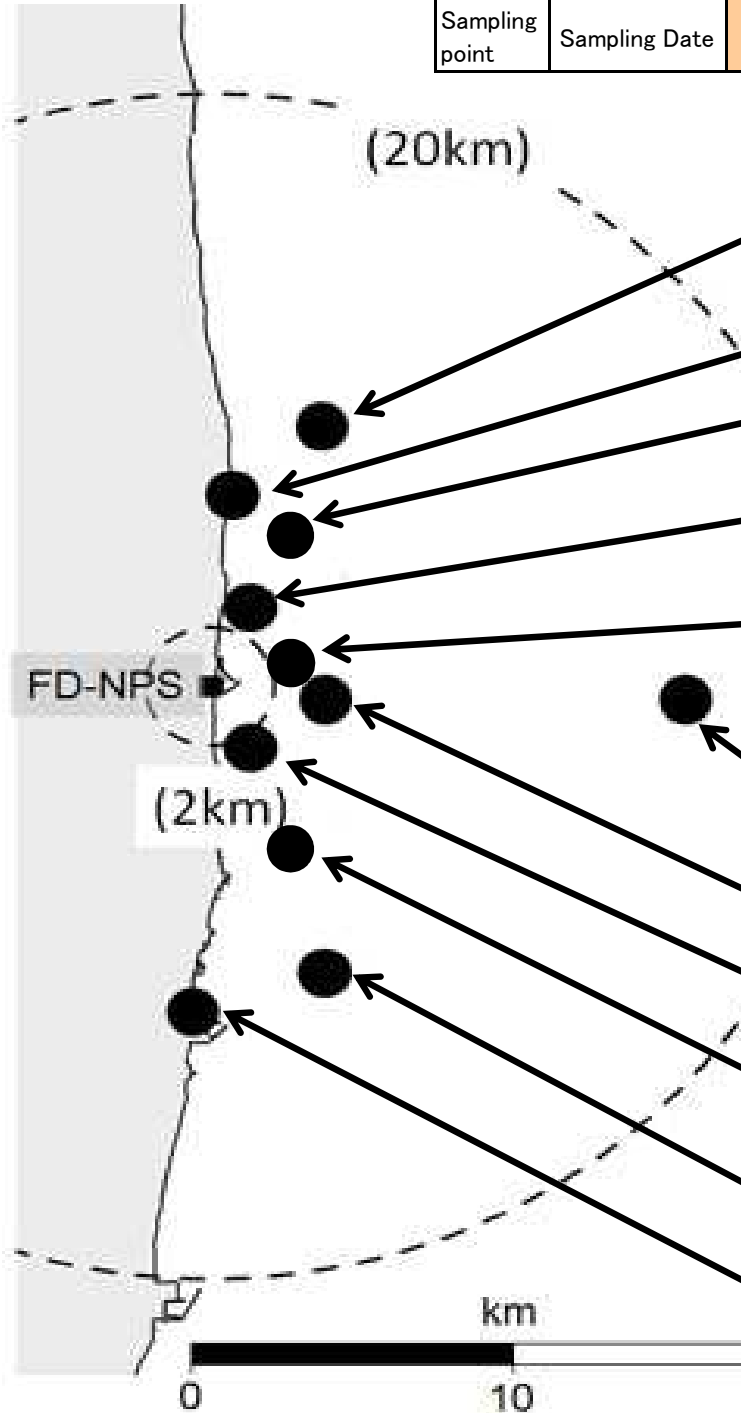
# Sea area between 2-20km radius from the NPS (1)

Sampling point	Sampling Date	Cs-134	Cs-137	total $\beta$	H-3	Sr-90	total $\alpha$	Pu-238	Pu-239+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	2015/2/17	0.0022	0.0061	ND(17) <sup>*1</sup>	ND(0.31)					S
	2015/2/10	0.0017	0.0064	ND(15) <sup>*1</sup>	0.68	ND(0.0088)	ND(2.0)			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	2015/2/17	0.010	0.029	ND(17) <sup>*1</sup>	ND(0.34)					S
F-P06	2015/3/3	ND(0.059)	ND(0.057)	0.03 <sup>*2</sup>	In progress	In progress		In progress	In progress	S
	2015/2/10	ND(0.057)	ND(0.061)	0.03 <sup>*2</sup>	ND(0.43)	0.001		In progress	In progress	S
	2015/1/14	ND(0.058)	ND(0.049)	0.03 <sup>*2</sup>	ND(0.44)	0.004		ND( $9 \times 10^{-6}$ )	ND( $7 \times 10^{-6}$ )	S
M-103	2015/1/8	0.0044	0.015		0.083	0.0039				0.5m
F-P04	2015/3/3	ND(0.064)	ND(0.052)	0.03 <sup>*2</sup>	In progress	In progress		In progress	In progress	S
	2015/2/10	ND(0.081)	ND(0.062)	0.04 <sup>*2</sup>	ND(0.43)	0.001		In progress	In progress	S
	2015/1/14	ND(0.074)	ND(0.065)	0.04 <sup>*2</sup>	ND(0.44)	0.005		ND( $7 \times 10^{-6}$ )	$9 \times 10^{-6}$	S
T-5	2015/2/17	ND(0.0013)	0.0033	ND(17) <sup>*1</sup>	ND(0.31)					S
	2015/2/10	ND(0.0014)	0.0048	ND(15) <sup>*1</sup>	ND(0.34)	ND(0.0091)	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	2015/2/17	0.0020	0.0064	ND(17) <sup>*1</sup>	ND(0.31)					S
	2015/2/10	0.0021	0.0071	ND(15) <sup>*1</sup>	0.53	ND(0.0069)	ND(2.0)			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	2015/1/9	0.019	0.070		0.24	0.042				0.5m
F-P05	2015/3/3	ND(0.096)	ND(0.053)	0.04 <sup>*2</sup>	In progress	In progress		In progress	In progress	S
	2015/2/10	ND(0.062)	ND(0.052)	0.04 <sup>*2</sup>	ND(0.43)	0.002		In progress	In progress	S
	2015/1/14	ND(0.061)	ND(0.060)	0.04 <sup>*2</sup>	ND(0.44)	0.004		ND( $8 \times 10^{-6}$ )	ND( $6 \times 10^{-6}$ )	S
T-D9	2015/2/17	0.0029	0.012	ND(17) <sup>*1</sup>	ND(0.31)					S
	2015/2/10	0.0069	0.024	ND(15) <sup>*1</sup>	ND(0.34)	ND(0.010)	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	2015/2/17	0.019	0.056	ND(16) <sup>*1</sup>	ND(0.34)					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	2015/2/26	0.0036	0.013	S
		0.0038	0.013	B

T-14	2015/2/23	0.0057	0.022	S
		0.0053	0.021	B
	2015/2/17	ND(0.0014)	0.0056	S
		0.0020	0.0064	B

T-S2	2015/2/26	0.0041	0.013	S
		0.0029	0.0090	B

T-D1	2015/2/23	0.0054	0.018	S
		0.0036	0.016	B
	2015/2/17	0.0022	0.0061	S
		0.0024	0.0095	B

T-6	2015/2/25	0.021	0.070	S
	2015/2/17	0.010	0.029	S

T-S8	2015/2/8	0.0023	0.011	S
		0.0014	0.0065	B

T-3	2015/2/24	0.030	0.10	S
	2015/2/17	0.019	0.056	S

T-S7	2015/2/12	0.0051	0.018	S
		0.0029	0.013	B

T-S5	2015/2/12	0.0040	0.018	S
		0.0086	0.035	B

T-S3	2015/2/24	0.0069	0.026	S
		0.0039	0.017	B

T-S4	2015/2/24	0.0083	0.028	S
		0.0046	0.016	B

T-D5	2015/2/23	0.0030	0.012	S
		0.012	0.039	B
	2015/2/17	0.0020	0.0064	S
		0.0017	0.0070	B

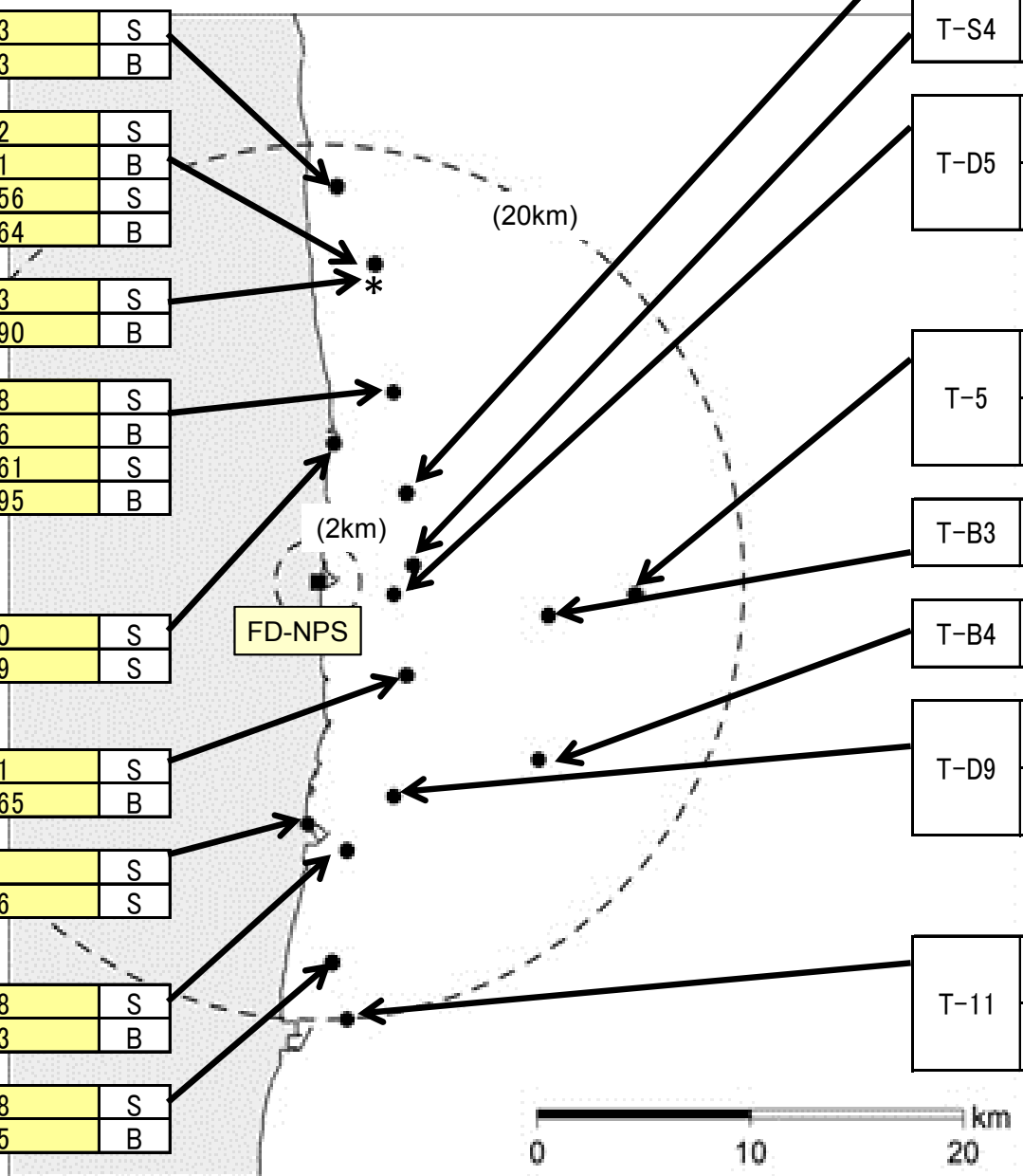
T-5	2015/2/23	ND(0.0013)	0.0026	S
		ND(0.0013)	0.0040	B
	2015/2/17	ND(0.0013)	0.0033	S
		ND(0.0013)	0.0042	B

T-B3	2015/1/11	0.0021	0.0088	S
		ND(0.0014)	0.0051	B

T-B4	2015/1/11	ND(0.0013)	0.0057	S
		ND(0.0012)	0.0063	B

T-D9	2015/2/23	0.0019	0.0096	S
		0.0022	0.010	B
	2015/2/17	0.0029	0.012	S
		0.0018	0.0066	B

T-11	2015/2/23	0.0021	0.0089	S
		0.0044	0.015	B
	2015/2/17	0.0045	0.019	S
		0.0043	0.015	B



\* Sampling was over by March 2015 at T-S2 point.

# 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	2015/2/10	ND(0.0014)	0.0045		S
		ND(0.0014)	0.0048		B

T-13-1	2015/2/10	0.0015	0.0070		S
		0.0018	0.0096		B

T-7	2015/2/21	ND(0.0012)	0.0028		S
		ND(0.0011)	0.0035		B

T-4	2015/2/24	0.014	0.055		S
	2015/2/17	0.014	0.051		S

T-12	2015/2/17	0.0031	0.014		S
		0.0021	0.0090		B

T-17-1	2015/2/17	0.0033	0.0081		S
		0.0023	0.014		B

M-C1	2015/1/22	ND(0.00072)	0.0028	0.00091	1m
		ND(0.00087)	0.0030		50m

T-B1	2015/2/25	ND(0.0013)	0.0060		S
		ND(0.0014)	0.0045		B

M-D1	2015/2/2	ND(0.00076)	0.0024	0.00093	1m
		ND(0.00061)	0.0019		50m
		ND(0.00075)	0.0021		120m

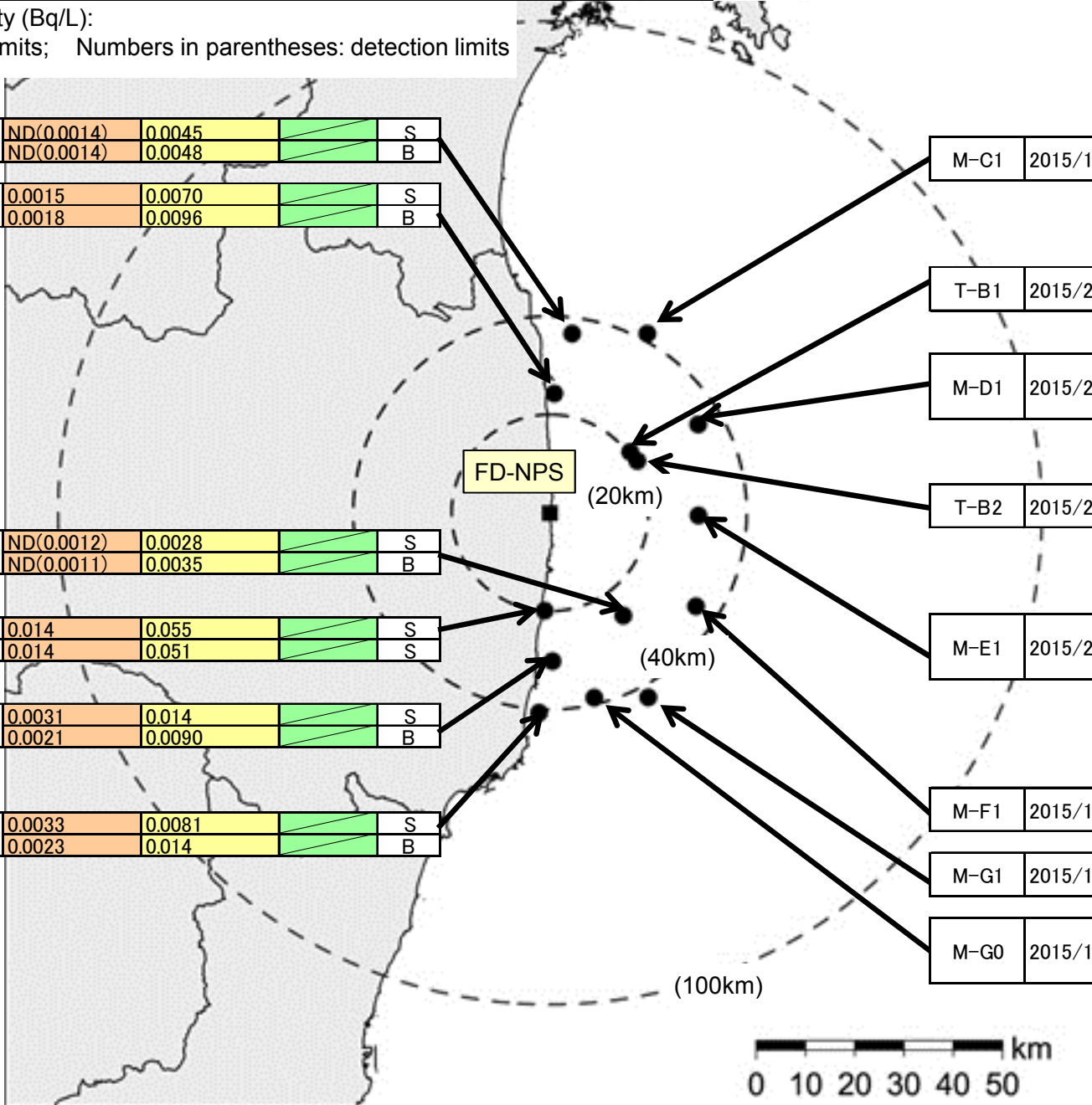
T-B2	2015/2/25	ND(0.0014)	0.0032		S
		ND(0.0014)	0.0033		B

M-E1	2015/2/6	ND(0.00057)	0.0022	0.0010	1m
		ND(0.00067)	0.0025		50m
		ND(0.00065)	0.0020		131m

M-F1	2015/1/24	ND(0.00069)	0.0038		1m
		0.00091	0.0043		138m

M-G1	2015/1/24	ND(0.00068)	0.0032		1m
		ND(0.00065)	0.0026		133m

M-G0	2015/1/26	0.00064	0.0048		1m
		0.0015	0.0054		50m
		0.0014	0.0057		102m



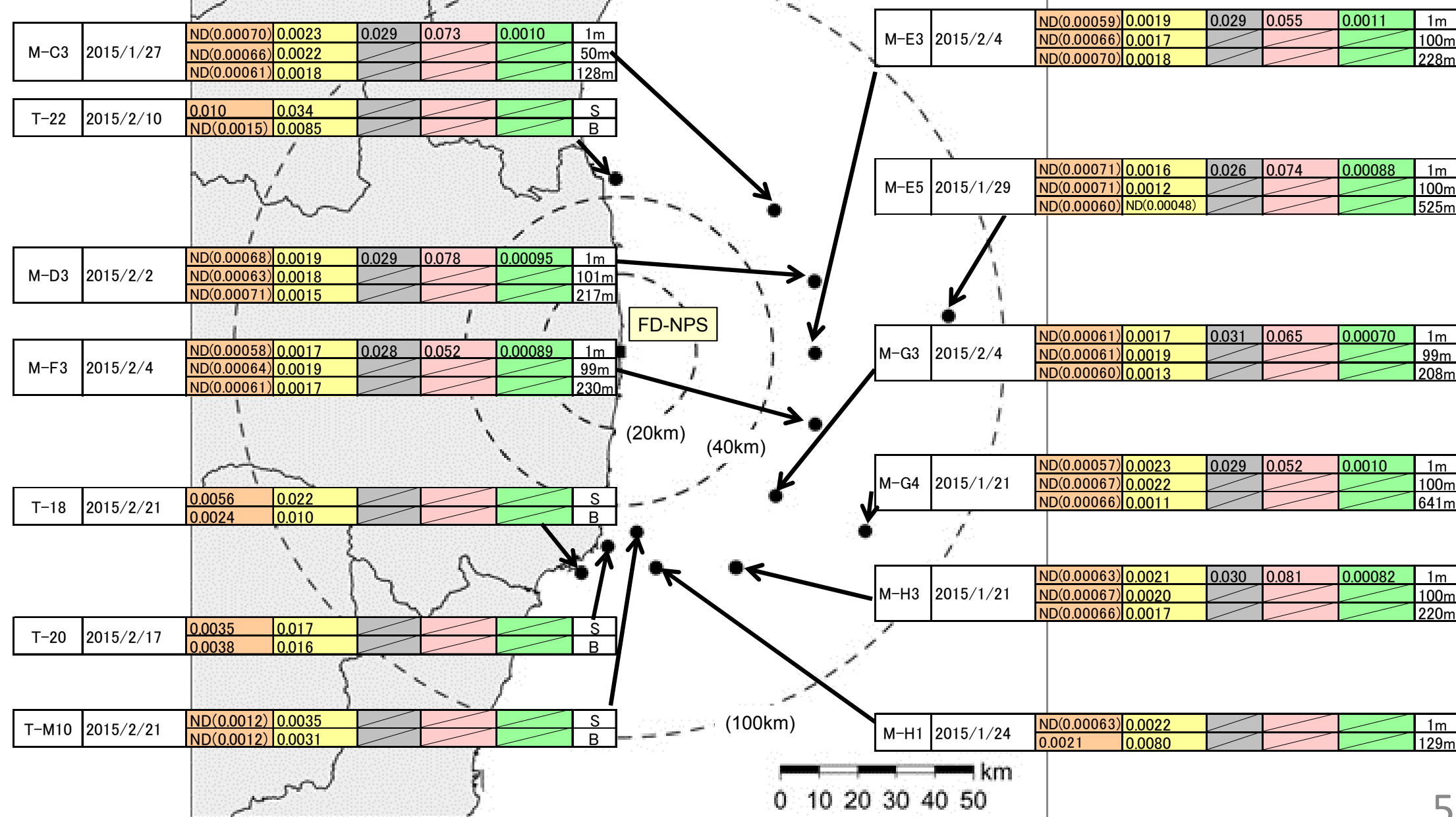
# Sea area between 20-100km radius from the NPS(2)

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

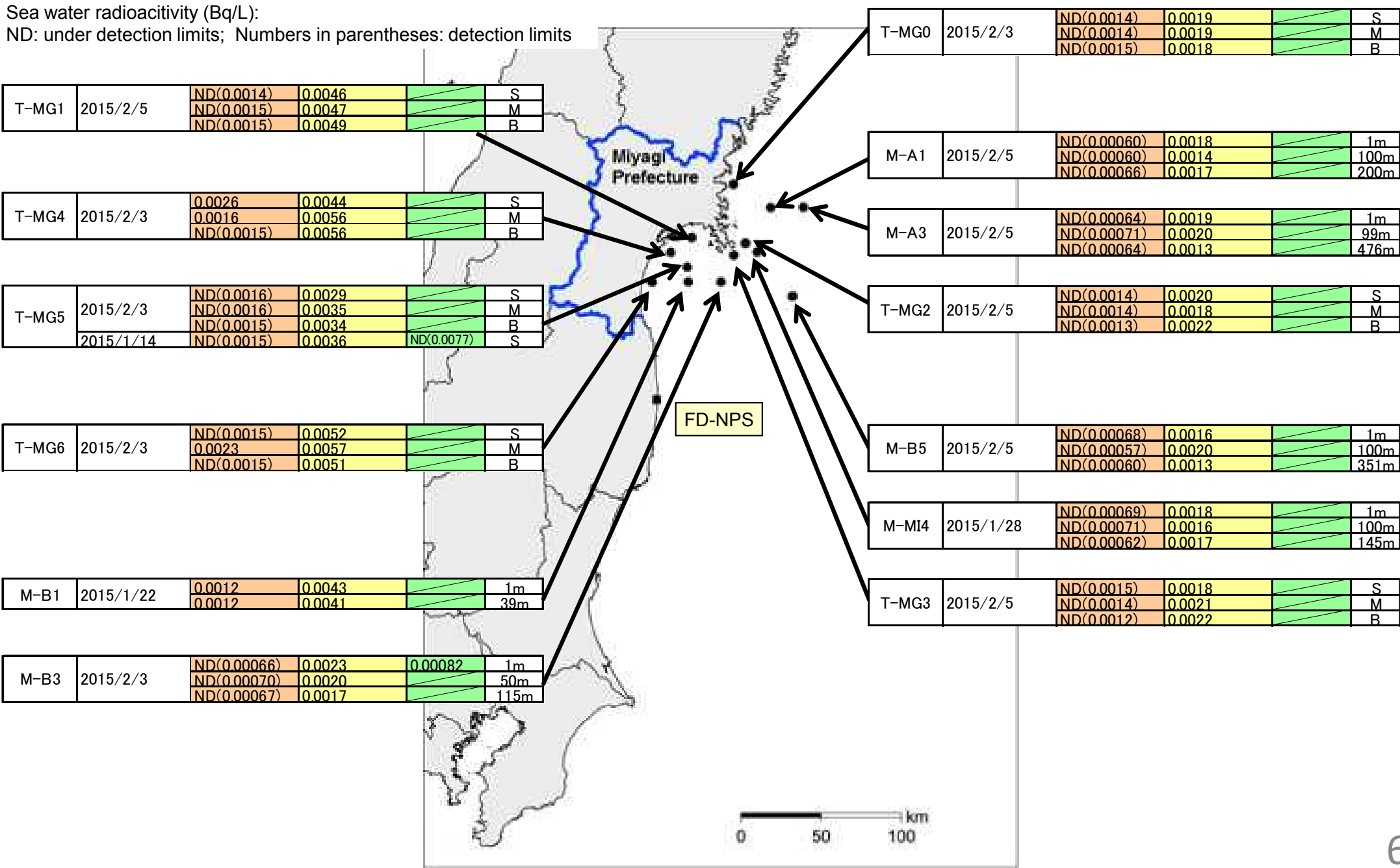


# Sea area along and off the coast of Miyagi Prefecture

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

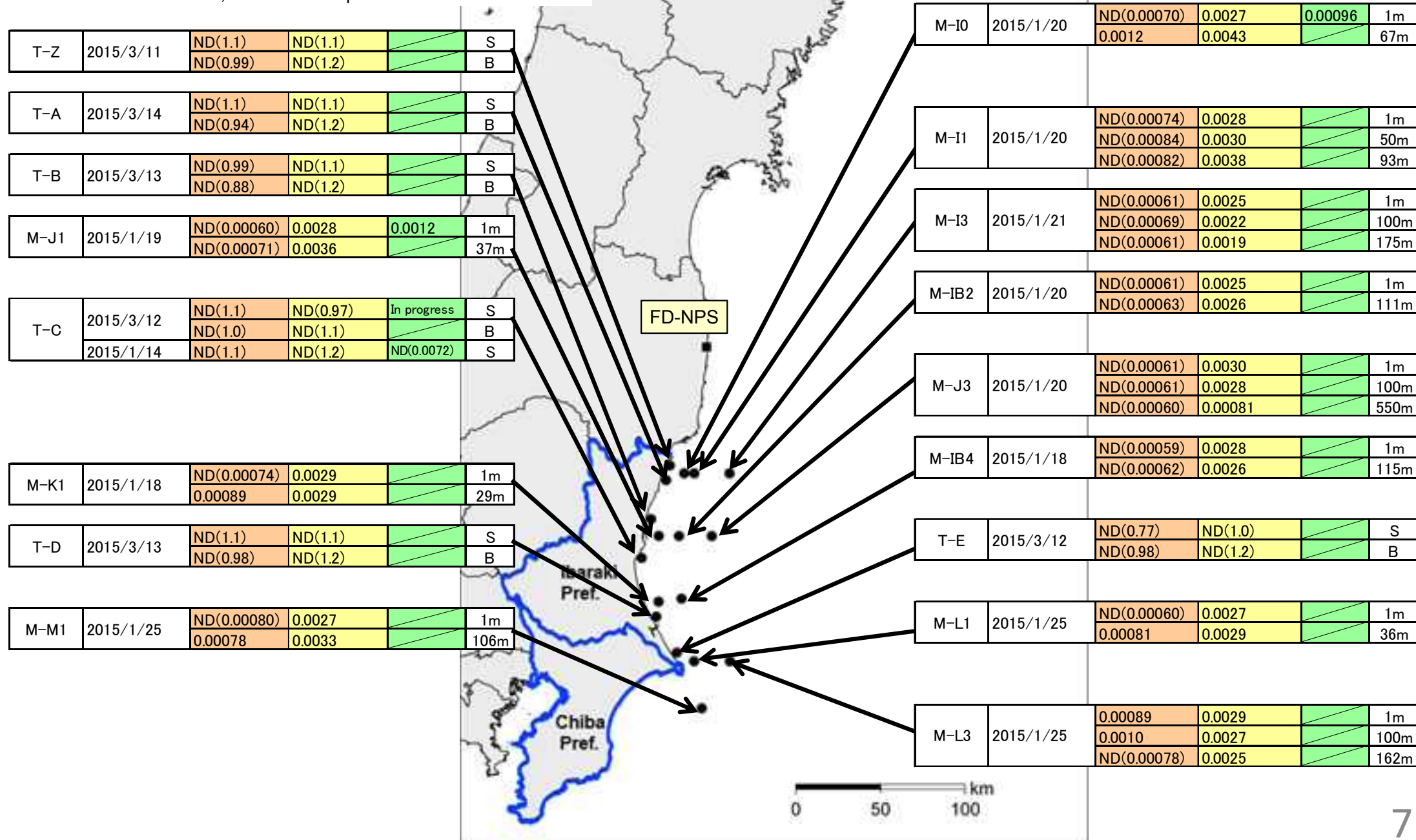


# Sea area along and off the coast of Ibaraki Pref. and Chiba Pref.

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-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

