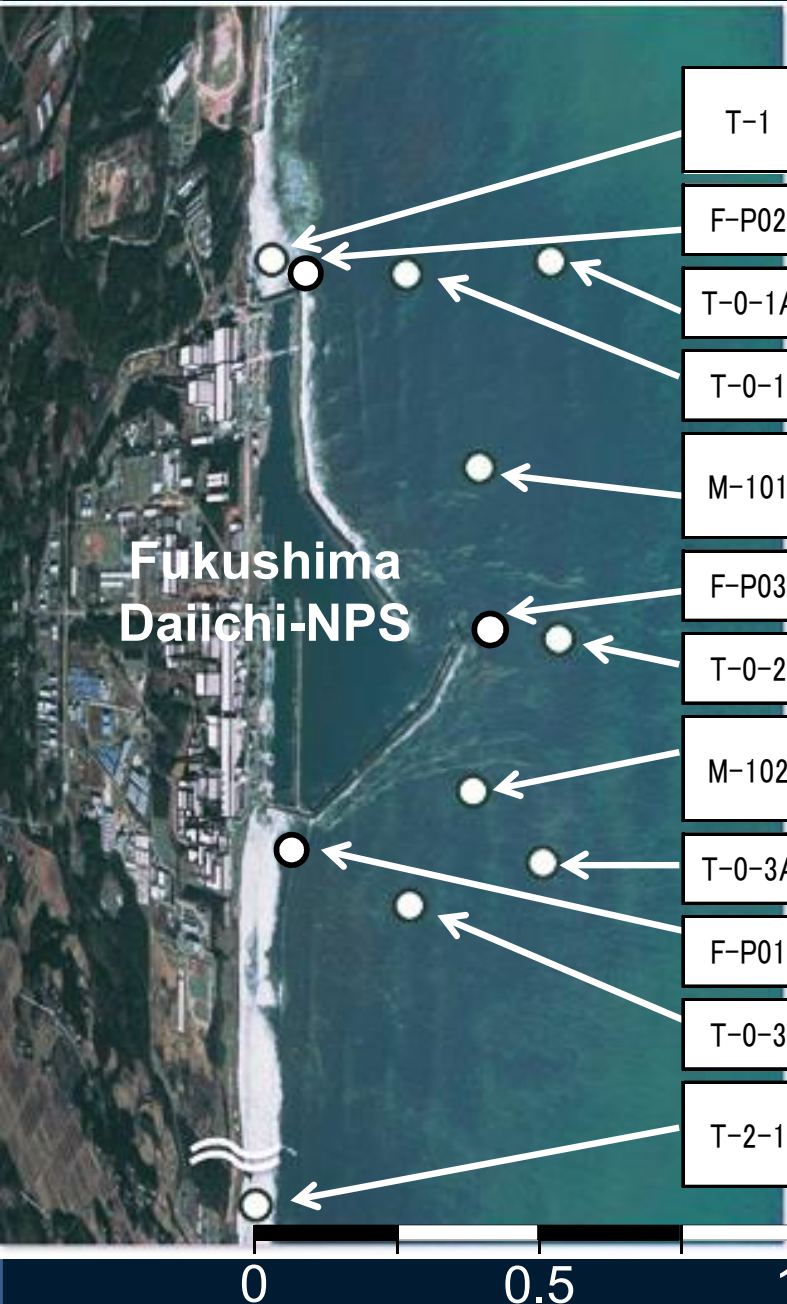


# Sea Area Monitoring

August 11, 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
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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	2015/7/27	ND(0.75)	ND(0.76)	14 <sup>*1</sup>	2.5				
	2015/6/1	ND(0.74)	ND(0.60)	13 <sup>*1</sup>	2.1	0.18	ND(1.9)		
	2015/4/8	ND(0.55)	ND(0.64)					ND( $5.5 \times 10^{-6}$ )	ND( $6.1 \times 10^{-6}$ )
F-P02	2015/4/22	ND(0.070)	ND(0.057)	0.02 <sup>*2</sup>	ND(0.43)	In progress		In progress	In progress
	2015/3/3	ND(0.072)	0.094	0.06 <sup>*2</sup>	ND(0.43)	0.041		ND( $7 \times 10^{-6}$ )	$1.1 \times 10^{-5}$
T-0-1A	2015/7/27	ND(0.86)	ND(0.83)	ND(20) <sup>*1</sup>	In progress				
	2015/7/21	ND(0.60)	ND(0.69)	ND(16) <sup>*1</sup>	ND(1.6)				
T-0-1	2015/7/27	ND(0.68)	ND(0.68)	ND(20) <sup>*1</sup>	In progress				
	2015/7/21	ND(0.74)	ND(0.68)	ND(16) <sup>*1</sup>	ND(1.6)				
M-101	2015/6/10	0.030	0.12		0.53	In progress			
	2015/5/20	0.0075	0.032		0.15	In progress			
	2015/4/28	0.0067	0.025		0.17	0.012			
F-P03	2015/4/22	ND(0.062)	ND(0.051)	0.02 <sup>*2</sup>	ND(0.44)	In progress		In progress	In progress
	2015/3/3	0.079	0.23	0.14 <sup>*2</sup>	1.4	0.23		ND( $6 \times 10^{-6}$ )	ND( $8 \times 10^{-6}$ )
T-0-2	2015/7/27	ND(0.64)	ND(0.68)	ND(20) <sup>*1</sup>	In progress				
	2015/7/21	ND(0.77)	ND(0.57)	ND(16) <sup>*1</sup>	ND(1.6)				
M-102	2015/6/11	0.0030	0.013		0.11	In progress			
	2015/5/21	0.027	0.10		0.28	In progress			
	2015/4/27	0.013	0.047		0.12	0.017			
T-0-3A	2015/7/27	ND(0.71)	ND(0.74)	ND(20) <sup>*1</sup>	In progress				
	2015/7/21	ND(0.73)	ND(0.70)	ND(16) <sup>*1</sup>	ND(1.6)				
F-P01	2015/4/22	ND(0.068)	ND(0.050)	0.02 <sup>*2</sup>	ND(0.44)	In progress		In progress	In progress
	2015/3/3	ND(0.068)	0.075	0.04 <sup>*2</sup>	ND(0.43)	0.004		ND( $6 \times 10^{-6}$ )	ND( $6 \times 10^{-6}$ )
T-0-3	2015/7/27	ND(0.60)	ND(0.65)	ND(20) <sup>*1</sup>	In progress				
	2015/7/21	ND(0.84)	ND(0.72)	ND(16) <sup>*1</sup>	ND(1.6)				
T-2-1	2015/7/27	ND(0.63)	ND(0.58)	13 <sup>*1</sup>	ND(1.7)				
	2015/6/1	ND(0.67)	ND(0.78)	14 <sup>*1</sup>	ND(1.7)	0.015	ND(1.9)		
	2015/4/8	ND(0.66)	ND(0.60)	8.9 <sup>*1</sup>				ND( $6.9 \times 10^{-6}$ )	( $9.7 \pm 2.4$ ) $\times 10^{-6}$

0 0.5 1km

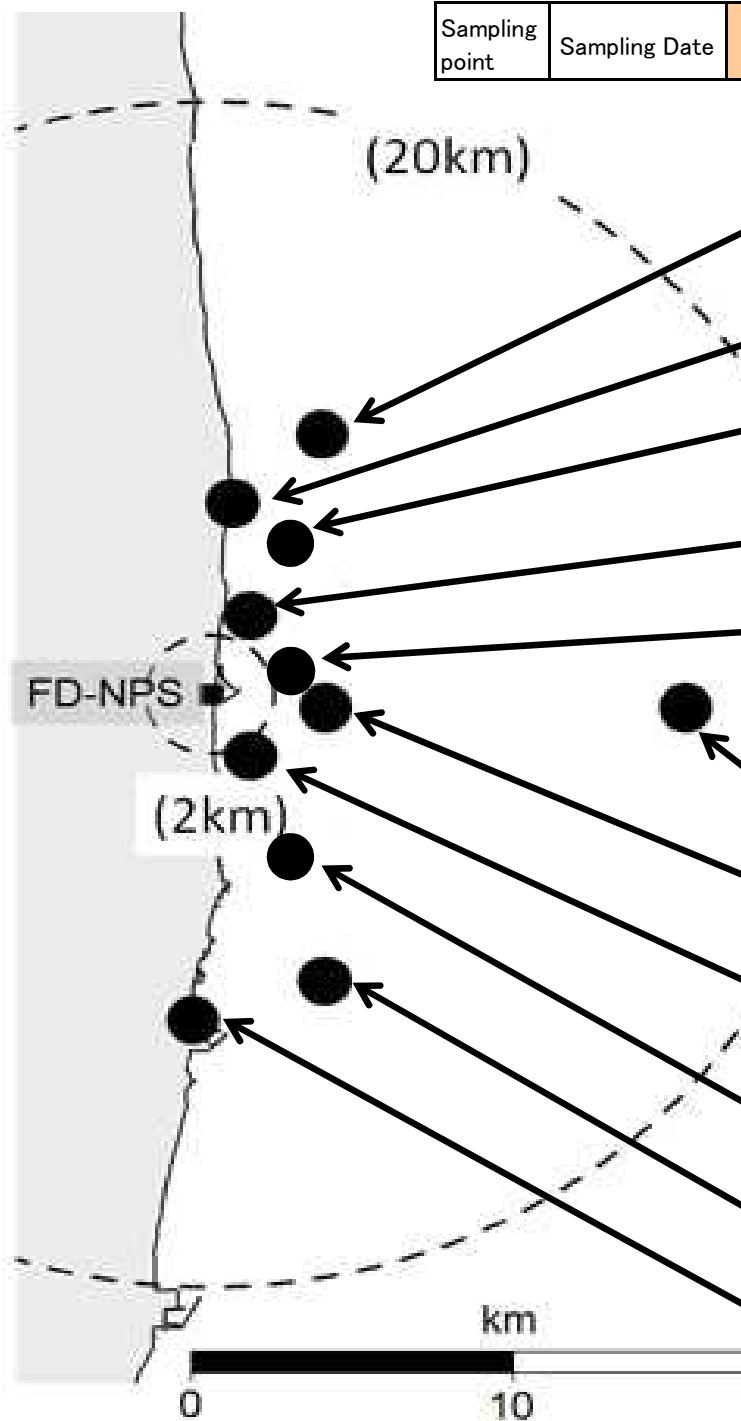
# Sea area between 2-20km radius from the NPS (1)

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	2015/6/22	0.0061	0.027	ND(16) <sup>*1</sup>	ND(0.34)					S
	2015/6/8	0.0047	0.015	ND(15) <sup>*1</sup>	ND(0.35)	ND(0.0089)	ND(1.6)			S
	2015/4/8	0.0017	0.0048	ND(15) <sup>*1</sup>	0.49	ND(0.0099)	ND(2.0)	ND(7.0 × 10 <sup>-6</sup> )	ND(6.8 × 10 <sup>-6</sup> )	S
T-6	2015/6/24	0.011	0.037	19 <sup>*1</sup>	ND(0.36)					S
F-P06	2015/4/22	ND(0.056)	ND(0.050)	0.02 <sup>*2</sup>	ND(0.44)	In progress		In progress	In progress	S
	2015/3/3	ND(0.059)	ND(0.057)	0.03 <sup>*2</sup>	ND(0.43)	0.004		ND(6 × 10 <sup>-6</sup> )	6 × 10 <sup>-6</sup>	S
M-103	2015/6/10	0.0050	0.020		0.13	In progress				0.5m
	2015/5/20	0.0037	0.015		0.12	In progress				0.5m
	2015/4/28	0.0044	0.015		0.14	0.0047				0.5m
F-P04	2015/4/22	ND(0.066)	ND(0.053)	0.02 <sup>*2</sup>	ND(0.43)	In progress		In progress	In progress	S
	2015/3/3	ND(0.064)	ND(0.052)	0.03 <sup>*2</sup>	0.48	0.002		ND(7 × 10 <sup>-6</sup> )	ND(8 × 10 <sup>-6</sup> )	S
T-5	2015/6/23	ND(0.0018)	0.0036	ND(16) <sup>*1</sup>	ND(0.33)					S
	2015/6/10	ND(0.0019)	0.0039	ND(17) <sup>*1</sup>	ND(0.35)	ND(0.0095)	ND(1.6)			S
	2015/4/9	ND(0.0014)	0.0021	ND(17) <sup>*1</sup>	ND(0.32)	ND(0.011)	ND(1.6)	ND(5.7 × 10 <sup>-6</sup> )	ND(5.6 × 10 <sup>-6</sup> )	S
T-D5	2015/6/22	ND(0.0019)	0.0082	ND(16) <sup>*1</sup>	ND(0.34)					S
	2015/6/8	0.0053	0.024	15 <sup>*1</sup>	ND(0.35)	ND(0.0087)	ND(1.6)			S
	2015/4/8	ND(0.0016)	0.0062	ND(15) <sup>*1</sup>	0.70	ND(0.011)	ND(2.0)	ND(6.3 × 10 <sup>-6</sup> )	ND(6.0 × 10 <sup>-6</sup> )	S
M-104	2015/6/11	0.0044	0.017		0.12	In progress				0.5m
	2015/5/21	0.0016	0.0083		0.080	In progress				0.5m
	2015/4/27	0.0040	0.015		0.091	0.0016				0.5m
F-P05	2015/4/22	ND(0.075)	ND(0.066)	0.02 <sup>*2</sup>	ND(0.44)	In progress		In progress	In progress	S
	2015/3/3	ND(0.096)	ND(0.053)	0.04 <sup>*2</sup>	ND(0.43)	0.004		ND(6 × 10 <sup>-6</sup> )	8 × 10 <sup>-6</sup>	S
T-D9	2015/6/23	0.0029	0.011	ND(16) <sup>*1</sup>	ND(0.33)					S
	2015/6/10	ND(0.0016)	0.0038	ND(17) <sup>*1</sup>	ND(0.35)	ND(0.0085)	ND(1.6)			S
	2015/4/9	ND(0.0017)	0.0043	ND(17) <sup>*1</sup>	ND(0.32)	ND(0.0092)	ND(1.6)	ND(6.7 × 10 <sup>-6</sup> )	ND(6.5 × 10 <sup>-6</sup> )	S
T-3	2015/6/24	0.013	0.045	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	2015/6/10	0.0028	0.012	S
		ND(0.0014)	0.0070	B

T-14	2015/6/30	0.0036	0.017	S
		0.0028	0.013	B
	2015/6/22	0.0042	0.020	S
		0.0014	0.0083	B
	2015/6/15	0.0014	0.0075	S
		0.0017	0.0087	B

T-D1	2015/6/30	0.0067	0.028	S
		0.0032	0.013	B
	2015/6/22	0.0061	0.027	S
		0.0028	0.012	B
	2015/6/15	0.0031	0.0087	S
		ND(0.0018)	0.0060	B

T-6	2015/6/30	0.015	0.063	S
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T-S8	2015/6/7	0.0015	0.0064	S
		ND(0.0015)	0.0086	B

T-3	2015/6/30	0.015	0.072	S
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T-S7	2015/6/4	0.0051	0.019	S
		0.0044	0.018	B

T-S5	2015/6/4	0.0036	0.015	S
		0.0039	0.014	B

T-S3	2015/6/9	0.0032	0.012	S
		ND(0.0015)	0.0054	B

T-S4	2015/6/9	0.0022	0.013	S
		0.0020	0.0094	B

T-D5	2015/6/30	0.0092	0.036	S
		0.0034	0.014	B
	2015/6/22	ND(0.0019)	0.0082	S
		0.0032	0.013	B
	2015/6/15	0.0023	0.011	S
		0.0028	0.010	B

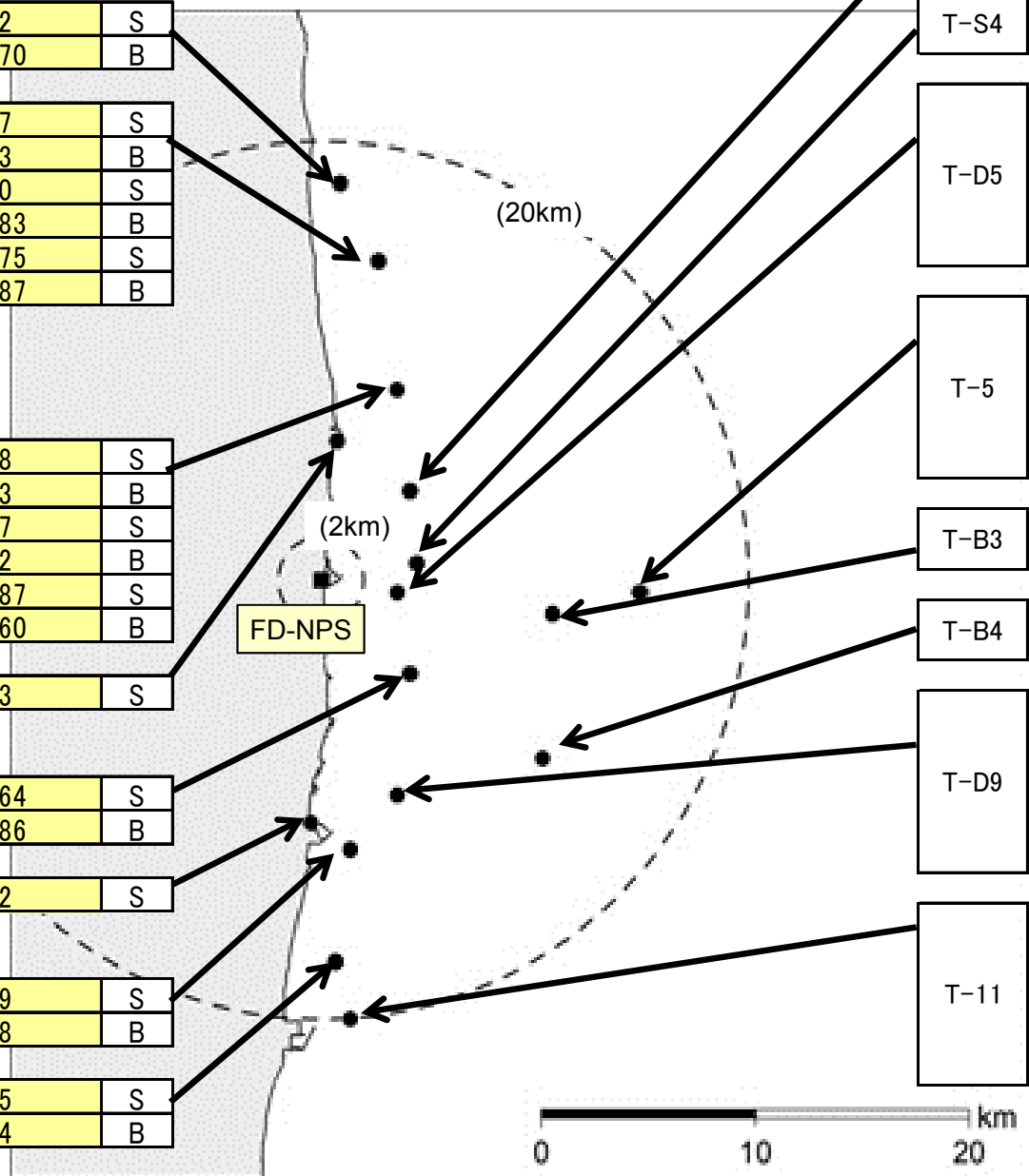
T-5	2015/6/30	ND(0.0018)	0.0052	S
		0.0042	0.016	B
	2015/6/23	ND(0.0018)	0.0036	S
		ND(0.0019)	0.0043	B
	2015/6/15	ND(0.0019)	0.0039	S
		ND(0.0018)	0.0053	B

T-B3	2015/6/16	ND(0.0013)	0.0049	S
		ND(0.0015)	0.0032	B

T-B4	2015/6/16	ND(0.0014)	0.0042	S
		ND(0.0013)	0.0031	B

T-D9	2015/6/30	0.0057	0.021	S
		0.0021	0.0072	B
	2015/6/23	0.0029	0.011	S
		0.0025	0.011	B
	2015/6/15	0.0021	0.0095	S
		0.0021	0.0085	B

T-11	2015/6/30	0.0037	0.014	S
		ND(0.0014)	0.0095	B
	2015/6/23	0.0027	0.015	S
		0.0043	0.015	B
	2015/6/15	ND(0.0013)	0.0045	S
		ND(0.0011)	0.0079	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	2015/6/11	0.0024 ND(0.0015)	0.0057 0.0097		S B
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T-13-1	2015/6/11	0.0029 ND(0.0013)	0.011 0.0089		S B
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T-7	2015/6/5	0.0014 ND(0.0012)	0.0066 0.0028		S B
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T-4	2015/6/30	0.019	0.085		S
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T-12	2015/6/4	ND(0.0014) ND(0.0015)	0.0061 0.0054		S B
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T-17-1	2015/6/4	0.0017 ND(0.0014)	0.0070 0.0066		S B
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M-C1	2015/1/22	ND(0.00072) ND(0.00087)	0.0028 0.0030		1m 50m
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T-B1	2015/6/12	ND(0.0014) ND(0.0014)	0.0036 0.0024		S B
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M-D1	2015/2/2	ND(0.00076) ND(0.00061) ND(0.00075)	0.0024 0.0019 0.0021		1m 50m 120m
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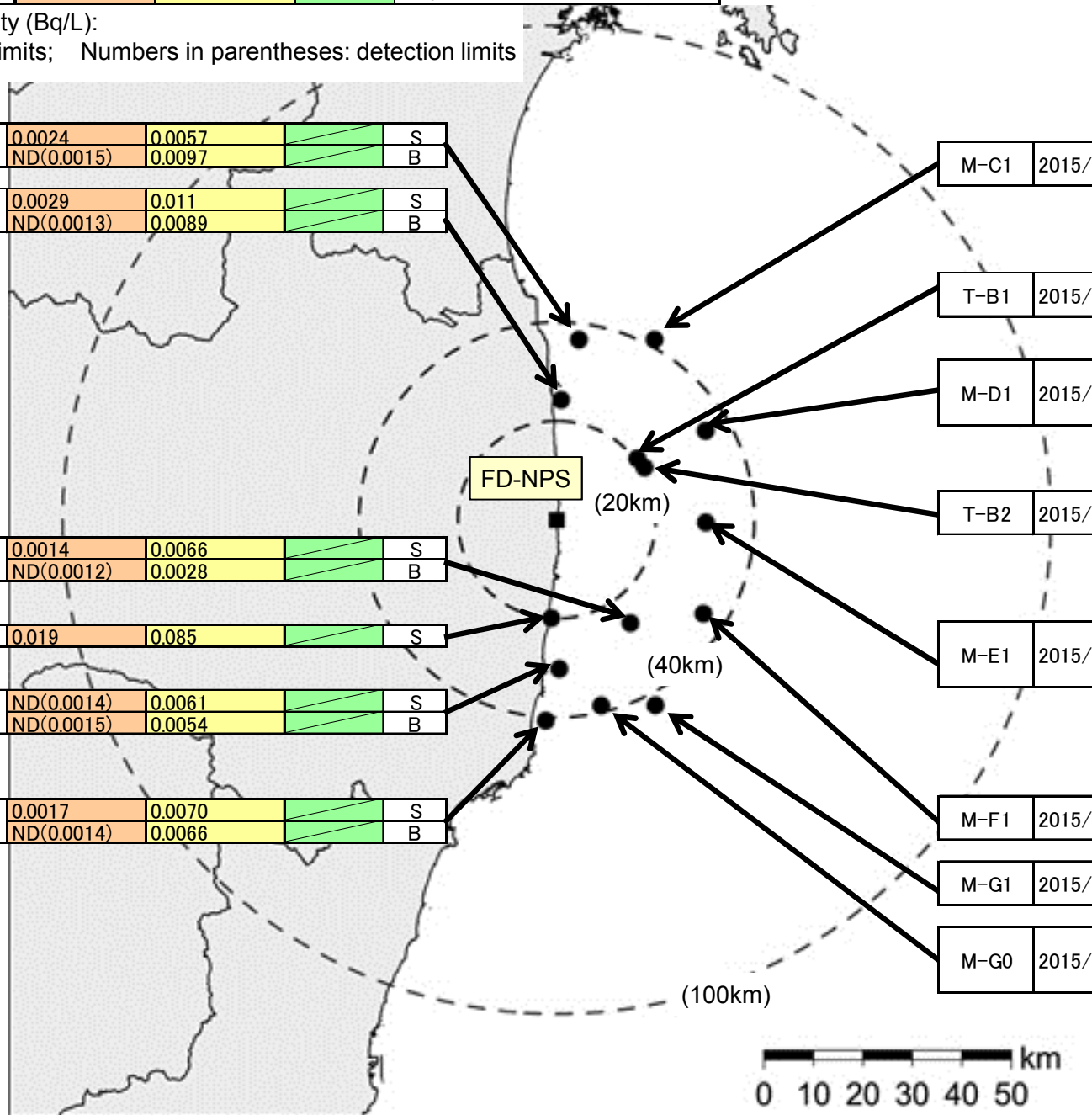
T-B2	2015/6/12	ND(0.0013) ND(0.0013)	0.0036 0.0026		S B
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M-E1	2015/2/6	ND(0.00057) ND(0.00067) ND(0.00065)	0.0022 0.0025 0.0020		1m 50m 131m
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M-F1	2015/1/24	ND(0.00069) 0.00091	0.0038 0.0043		1m 138m
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M-G1	2015/1/24	ND(0.00068) ND(0.00065)	0.0032 0.0026		1m 133m
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M-G0	2015/1/26	0.00064 0.0015 0.0014	0.0048 0.0054 0.0057		1m 50m 102m
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# Sea area between 20-100km radius from the NPS(2)

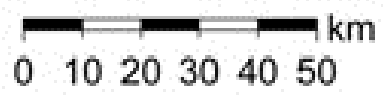
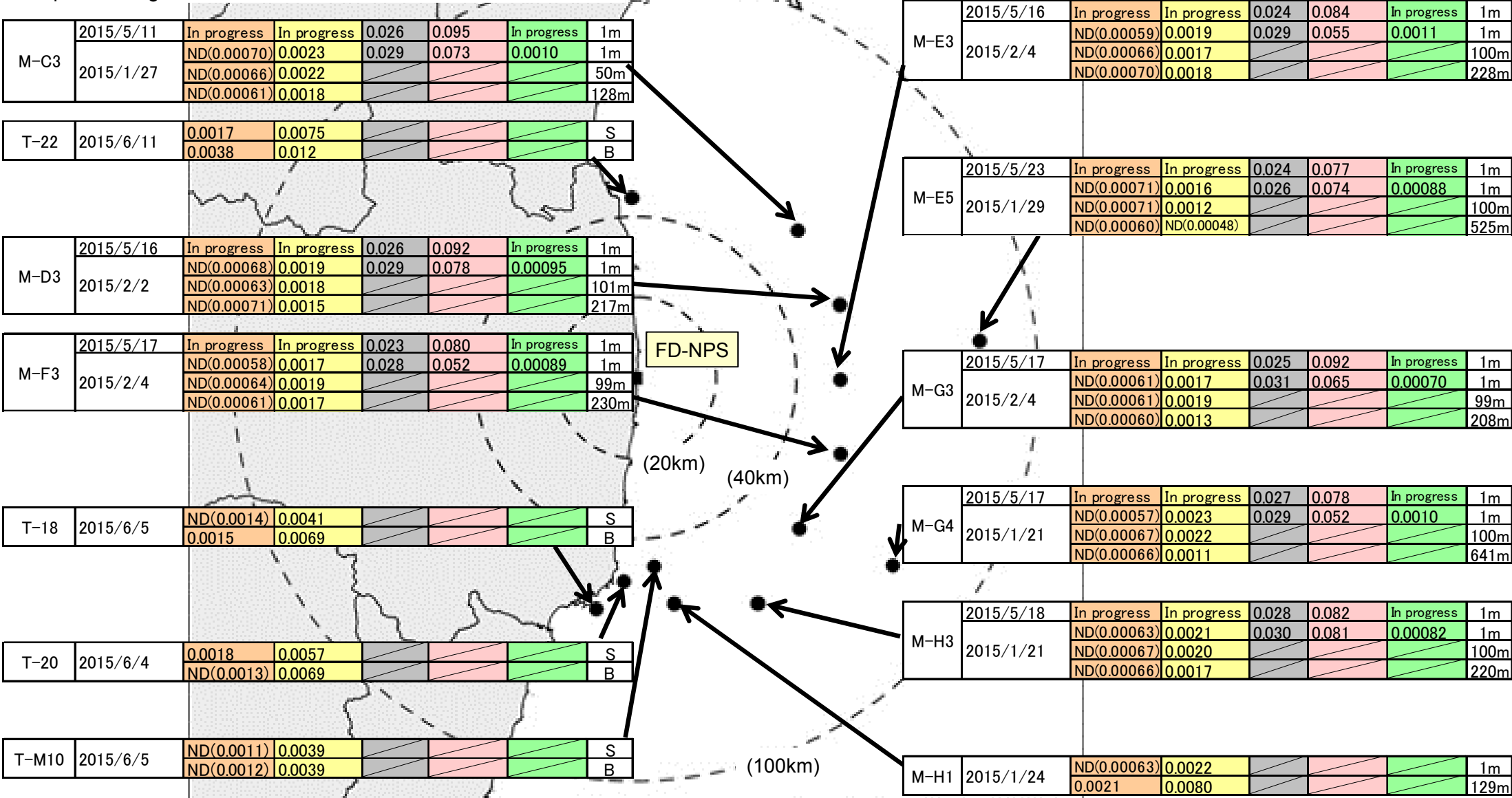
Sampling point	Sampling Date	Cs-134	Cs-137	Total β*	H-3	Sr-90	S/B	S:2m below sea level	B:2-3m above sea bottom
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Depth(m) from sea level
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Sea water radioactivity (Bq/L):

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

\*Total β: excluding K-40

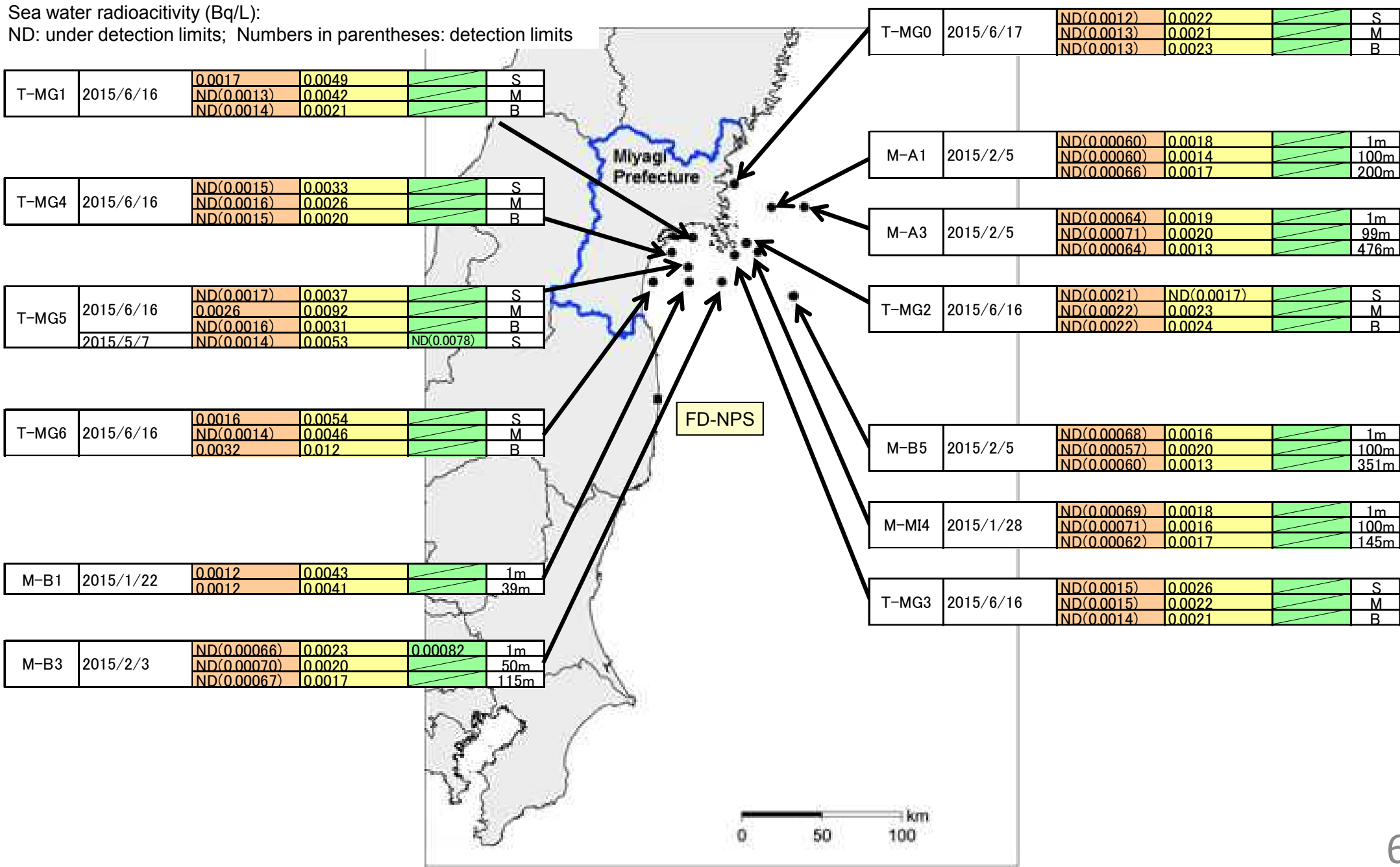


# Sea area along and off the coast of Miyagi Prefecture

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

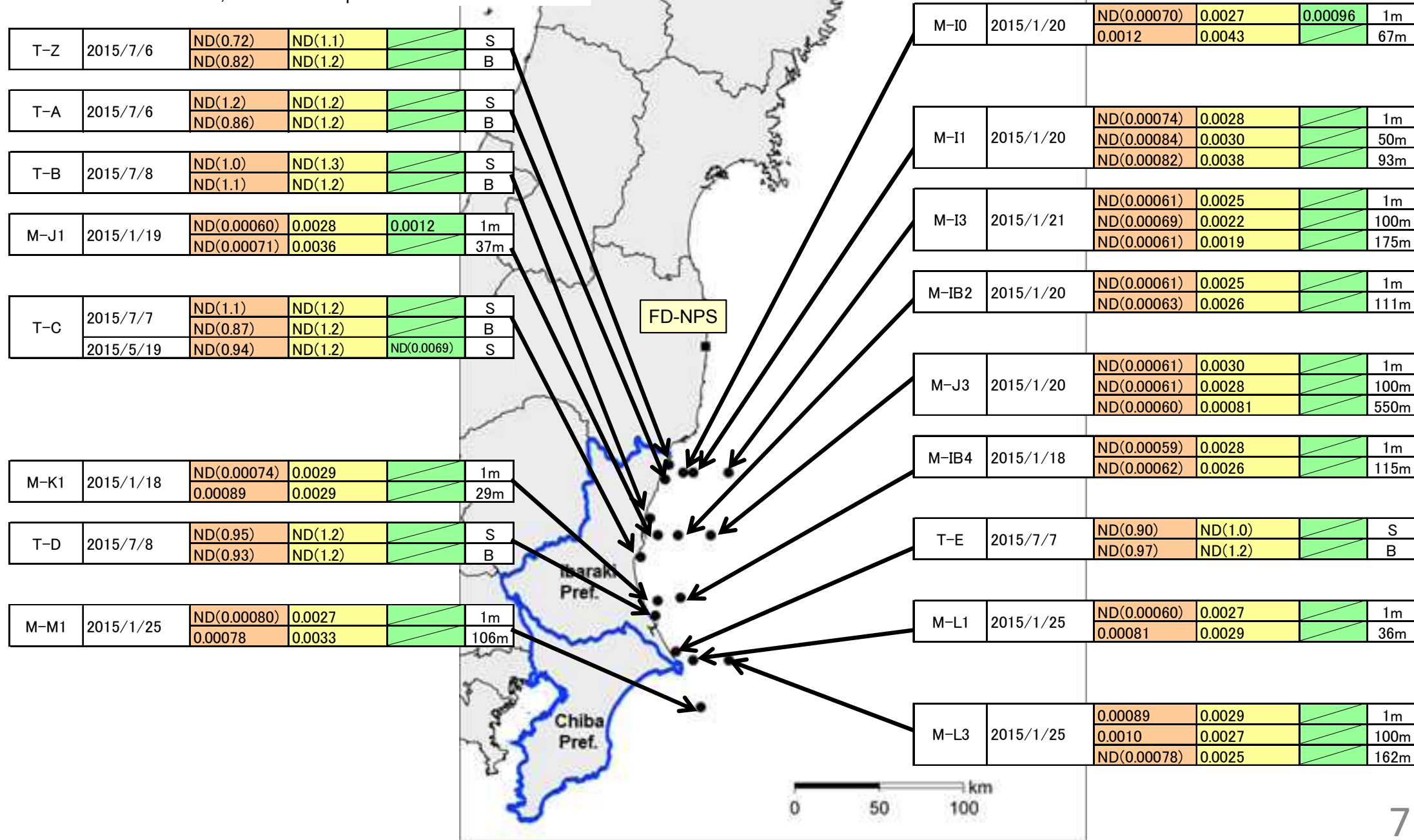


# Sea area along and off the coast of Ibaraki Pref. and Chiba Pref.

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





# 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	2015/5/26	ND(0.00082)	0.0024	1m
		ND(0.00075)	0.0031	101m
		ND(0.00068)	0.0018	201m
		ND(0.00078)	0.0017	301m
		ND(0.00078)	0.00089	500m

M-11	2015/5/26	ND(0.00069)	0.0030	1m
		ND(0.00063)	0.0029	101m
		ND(0.00062)	0.0024	201m
		ND(0.00070)	0.0018	301m
		ND(0.00068)	0.0015	502m

M-14	2015/5/27	ND(0.00064)	0.0028	1m
		ND(0.00054)	0.0018	102m
		ND(0.00060)	0.0015	200m
		ND(0.00053)	0.0011	303m
		ND(0.00060)	0.00086	502m

M-15	2015/5/27	ND(0.00068)	0.0026	1m
		ND(0.00061)	0.0022	100m
		ND(0.00061)	0.0016	201m
		ND(0.00062)	0.0016	300m
		ND(0.00059)	0.00073	501m

M-19	2015/5/29	ND(0.00058)	0.0026	1m
		ND(0.00057)	0.0022	102m
		ND(0.00056)	0.0015	201m
		ND(0.00055)	0.0016	300m
		ND(0.00056)	0.00071	502m

M-21	2015/5/31	ND(0.00057)	0.0016	1m
		ND(0.00061)	0.0023	102m
		0.00061	0.0039	200m
		ND(0.00052)	0.0023	300m
		ND(0.00062)	0.00087	500m

M-20	2015/5/31	ND(0.00065)	0.0017	1m
		0.00065	0.0031	100m
		ND(0.00068)	0.0031	200m
		ND(0.00059)	0.0018	305m
		ND(0.00061)	0.0013	499m

M-26	2015/5/28	ND(0.00060)	0.0024	1m
		ND(0.00056)	0.0029	100m
		ND(0.00066)	0.0034	202m
		ND(0.00066)	0.0040	301m
		ND(0.00061)	0.0027	500m

M-25	2015/6/1	ND(0.00073)	0.0015	1m
		ND(0.00077)	0.0031	100m
		ND(0.00069)	0.0030	201m
		0.00081	0.0056	301m
		0.00067	0.0024	500m

M-27	2015/5/28	ND(0.00060)	0.0026	1m
		ND(0.00060)	0.0030	100m
		0.00082	0.0042	200m
		0.0011	0.0049	301m
		ND(0.00065)	0.0034	501m

