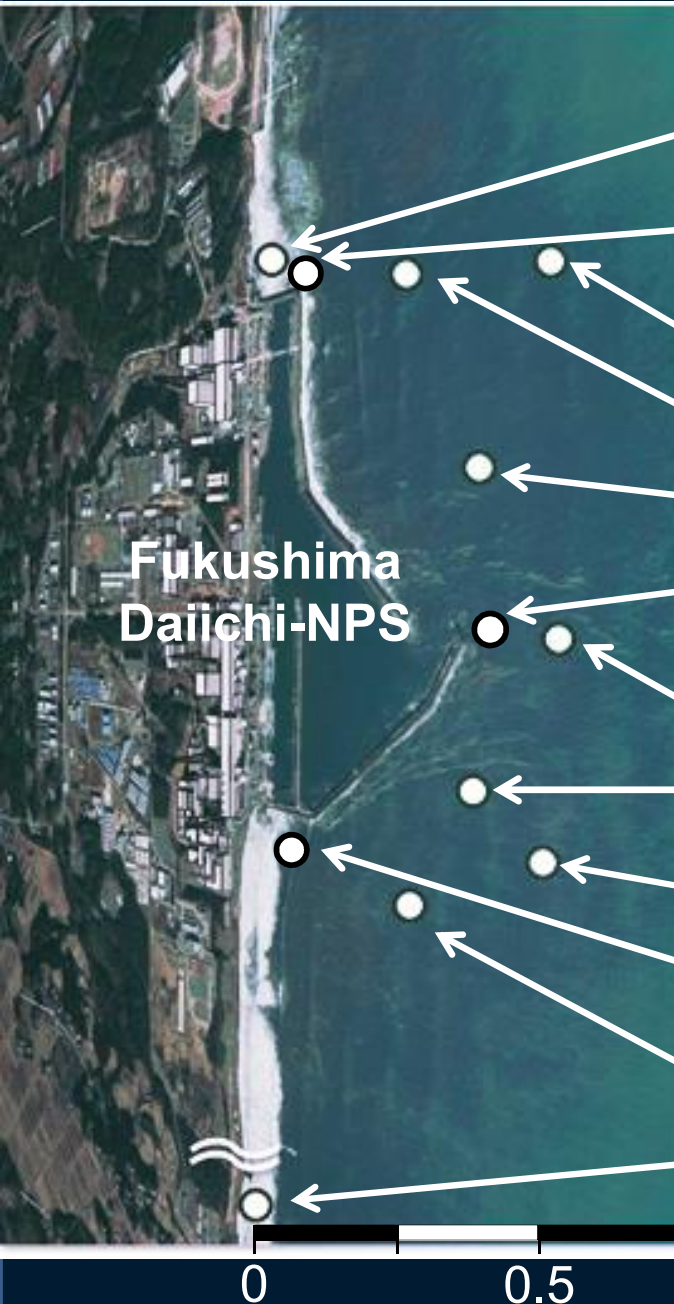


# Sea Area Monitoring

December 15, 2015

Nuclear Regulation Authority (NRA), Japan

# Sea area within 2km radius from the NPS



Sampling point	Sampling Date	Cs-134	Cs-137	total β	H-3	Sr-90	total α	Pu-238	Pu-239+240
Sea water radioactivity (Bq/L): ND: under detection limits; Numbers in parentheses: detection limits *1: Total β: including K-40    *2: Total β: excluding K-40									
T-1	2015/11/30	ND(0.71)	ND(0.73)	13 <sup>*1</sup>	ND(1.5)				
	2015/10/14	ND(0.69)	ND(0.65)	13 <sup>*1</sup>	ND(1.7)	0.087	ND(1.9)		
	2015/4/8	ND(0.55)	ND(0.64)					ND(5.5 × 10 <sup>-6</sup> )	ND(6.1 × 10 <sup>-6</sup> )
F-P02	2015/9/14	0.21	1.0	0.03 <sup>*2</sup>	ND(0.41)	In progress		In progress	In progress
	2015/8/17	ND(0.088)	0.12	0.05 <sup>*2</sup>	ND(0.44)	0.10		In progress	In progress
	2015/3/3	ND(0.072)	0.094	0.06 <sup>*2</sup>	ND(0.43)	0.041		ND(7 × 10 <sup>-6</sup> )	1.1 × 10 <sup>-5</sup>
T-0-1A	2015/11/30	ND(0.75)	ND(0.53)	ND(18) <sup>*1</sup>	In progress				
	2015/11/23	ND(0.63)	ND(0.64)	ND(16) <sup>*1</sup>	ND(2.1)				
T-0-1	2015/11/30	ND(0.51)	ND(0.71)	ND(18) <sup>*1</sup>	In progress				
	2015/11/23	ND(0.71)	ND(0.53)	ND(16) <sup>*1</sup>	ND(2.1)				
M-101	2015/10/5	0.018	0.085		0.44	In progress			
	2015/9/2	0.14	0.60		1.9	0.76			
F-P03	2015/9/14	ND(0.051)	0.087	0.03 <sup>*2</sup>	ND(0.40)	In progress		In progress	In progress
	2015/8/17	0.13	0.48	0.19 <sup>*2</sup>	1.1	0.46		In progress	In progress
	2015/3/3	0.079	0.23	0.14 <sup>*2</sup>	1.4	0.23		ND(6 × 10 <sup>-6</sup> )	ND(8 × 10 <sup>-6</sup> )
T-0-2	2015/11/30	ND(0.64)	ND(0.69)	ND(18) <sup>*1</sup>	In progress				
	2015/11/23	ND(0.70)	ND(0.66)	ND(16) <sup>*1</sup>	ND(2.1)				
M-102	2015/10/6	0.016	0.066		0.20	In progress			
	2015/9/3	0.0054	0.022		0.077	0.00098			
T-0-3A	2015/11/30	ND(0.77)	ND(0.52)	ND(18) <sup>*1</sup>	In progress				
	2015/11/23	ND(0.68)	ND(0.50)	ND(16) <sup>*1</sup>	ND(2.1)				
F-P01	2015/9/14	ND(0.053)	0.15	0.05 <sup>*2</sup>	0.55	In progress		In progress	In progress
	2015/8/17	ND(0.071)	0.12	0.04 <sup>*2</sup>	ND(0.42)	0.037		In progress	In progress
	2015/3/3	ND(0.068)	0.075	0.04 <sup>*2</sup>	ND(0.43)	0.004		ND(6 × 10 <sup>-6</sup> )	ND(6 × 10 <sup>-6</sup> )
T-0-3	2015/11/30	ND(0.77)	ND(0.89)	ND(18) <sup>*1</sup>	In progress				
	2015/11/23	ND(0.76)	ND(0.69)	ND(16) <sup>*1</sup>	ND(2.1)				
T-2-1	2015/11/30	ND(0.66)	ND(0.78)	9.5 <sup>*1</sup>	ND(1.5)				
	2015/10/14	ND(0.88)	ND(0.78)	11 <sup>*1</sup>	ND(1.7)	ND(0.0093)	ND(1.9)		
	2015/4/8	ND(0.66)	ND(0.60)	8.9 <sup>*1</sup>				ND(6.9 × 10 <sup>-6</sup> )	(9.7 ± 2.4) × 10 <sup>-6</sup>

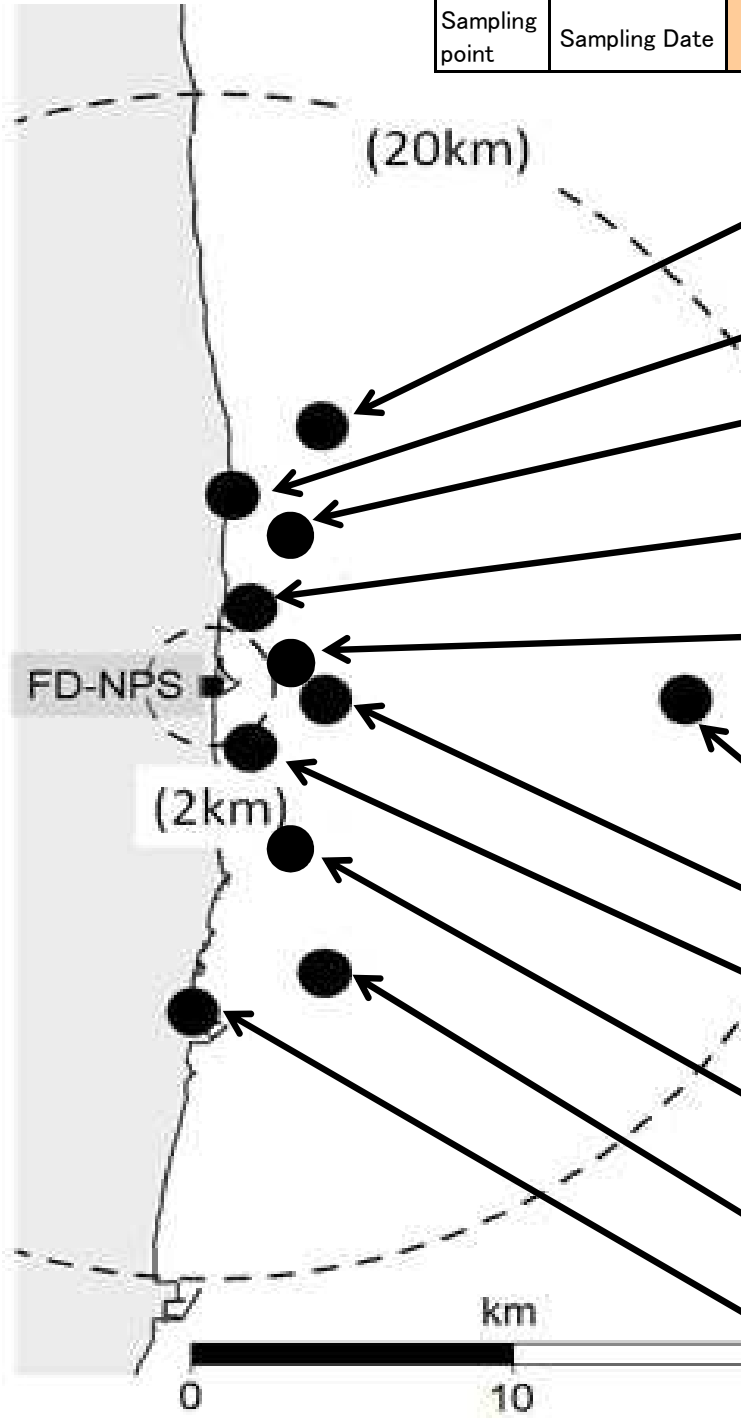
# Sea area between 2-20km radius from the NPS (1)

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	2015/10/19	0.0069	0.034	ND(17) <sup>*1</sup>	ND(0.36)						S
	2015/10/5	0.0029	0.010	ND(16) <sup>*1</sup>	ND(0.36)	ND(0.0066)	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	2015/11/4	0.014	0.061	ND(17) <sup>*1</sup>	ND(0.33)						S
F-P06	2015/9/14	ND(0.050)	0.082	0.02 <sup>*2</sup>	0.47	In progress		In progress	In progress		S
	2015/8/17	ND(0.070)	ND(0.066)	0.02 <sup>*2</sup>	ND(0.41)	0.001		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	2015/10/5	0.0046	0.020		0.10	In progress					0.5m
	2015/9/2	0.0068	0.030		0.10	0.0021					0.5m
F-P04	2015/9/14	ND(0.054)	0.052	0.02 <sup>*2</sup>	ND(0.40)	In progress		In progress	In progress		S
	2015/8/17	ND(0.090)	ND(0.066)	0.02 <sup>*2</sup>	ND(0.42)	0.001		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	2015/10/19	ND(0.0017)	0.0032	ND(17) <sup>*1</sup>	ND(0.36)						S
	2015/10/6	ND(0.0015)	0.0042	ND(16) <sup>*1</sup>	ND(0.36)	ND(0.0067)	ND(1.9)				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	2015/10/19	0.0079	0.030	ND(17) <sup>*1</sup>	ND(0.36)						S
	2015/10/5	ND(0.0016)	0.0085	ND(16) <sup>*1</sup>	ND(0.36)	ND(0.0062)	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	2015/10/6	0.0041	0.016		0.080	In progress					0.5m
	2015/9/3	0.0062	0.030		0.14	0.0012					0.5m
F-P05	2015/9/14	0.067	0.31	0.03 <sup>*2</sup>	ND(0.39)	In progress		In progress	In progress		S
	2015/8/17	ND(0.080)	ND(0.070)	0.02 <sup>*2</sup>	ND(0.42)	0.002		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	2015/10/19	0.0053	0.023	ND(17) <sup>*1</sup>	ND(0.36)						S
	2015/10/6	0.0026	0.013	ND(16) <sup>*1</sup>	ND(0.36)	ND(0.0068)	ND(1.9)				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	2015/11/4	0.017	0.064	ND(17) <sup>*1</sup>	ND(0.33)						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	2015/10/20	0.0060	0.029	S
		0.0045	0.020	B

T-14	2015/11/12	0.0022	0.012	S
		ND(0.0013)	0.0085	B
	2015/11/2	0.0031	0.016	S
		0.0049	0.018	B

T-D1	2015/11/12	0.0080	0.034	S
		0.0075	0.033	B
	2015/11/2	0.0038	0.013	S
		0.0031	0.016	B

T-6	2015/11/10	0.020	0.084	S
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T-S8	2015/10/18	0.0065	0.028	S
		0.0025	0.014	B

T-3	2015/11/10	0.021	0.071	S
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T-S7	2015/11/4	0.0057	0.028	S
		0.010	0.047	B

T-S5	2015/11/4	0.0080	0.032	S
		0.0060	0.029	B

T-S3	2015/10/27	0.0049	0.017	S
		0.0033	0.012	B

T-S4	2015/10/27	0.0027	0.011	S
		0.0031	0.016	B

T-D5	2015/11/12	0.0025	0.013	S
		0.0023	0.011	B
	2015/11/2	0.0044	0.021	S
		0.0036	0.012	B

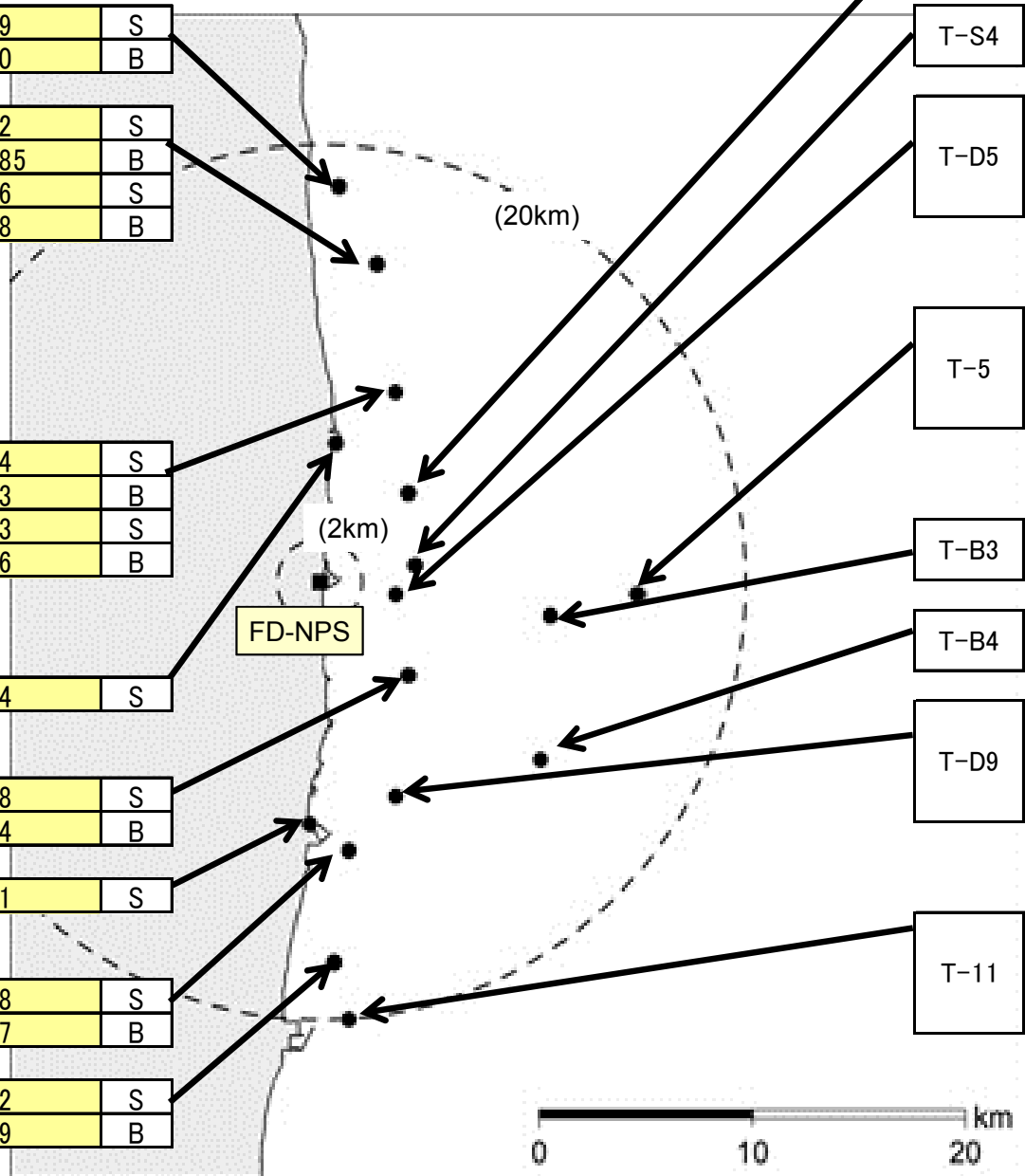
T-5	2015/11/12	ND(0.0016)	0.0038	S
		ND(0.0018)	0.0038	B
	2015/11/2	ND(0.0014)	0.0043	S
		ND(0.0016)	0.0040	B

T-B3	2015/11/10	ND(0.0015)	0.0069	S
		ND(0.0014)	0.0039	B

T-B4	2015/11/10	0.0025	0.0083	S
		ND(0.0014)	0.0046	B

T-D9	2015/11/12	0.0032	0.013	S
		0.0039	0.019	B
	2015/11/2	0.0051	0.020	S
		0.0031	0.010	B

T-11	2015/11/12	0.0076	0.032	S
		0.0080	0.039	B
	2015/11/2	0.0059	0.026	S
		0.0033	0.017	B

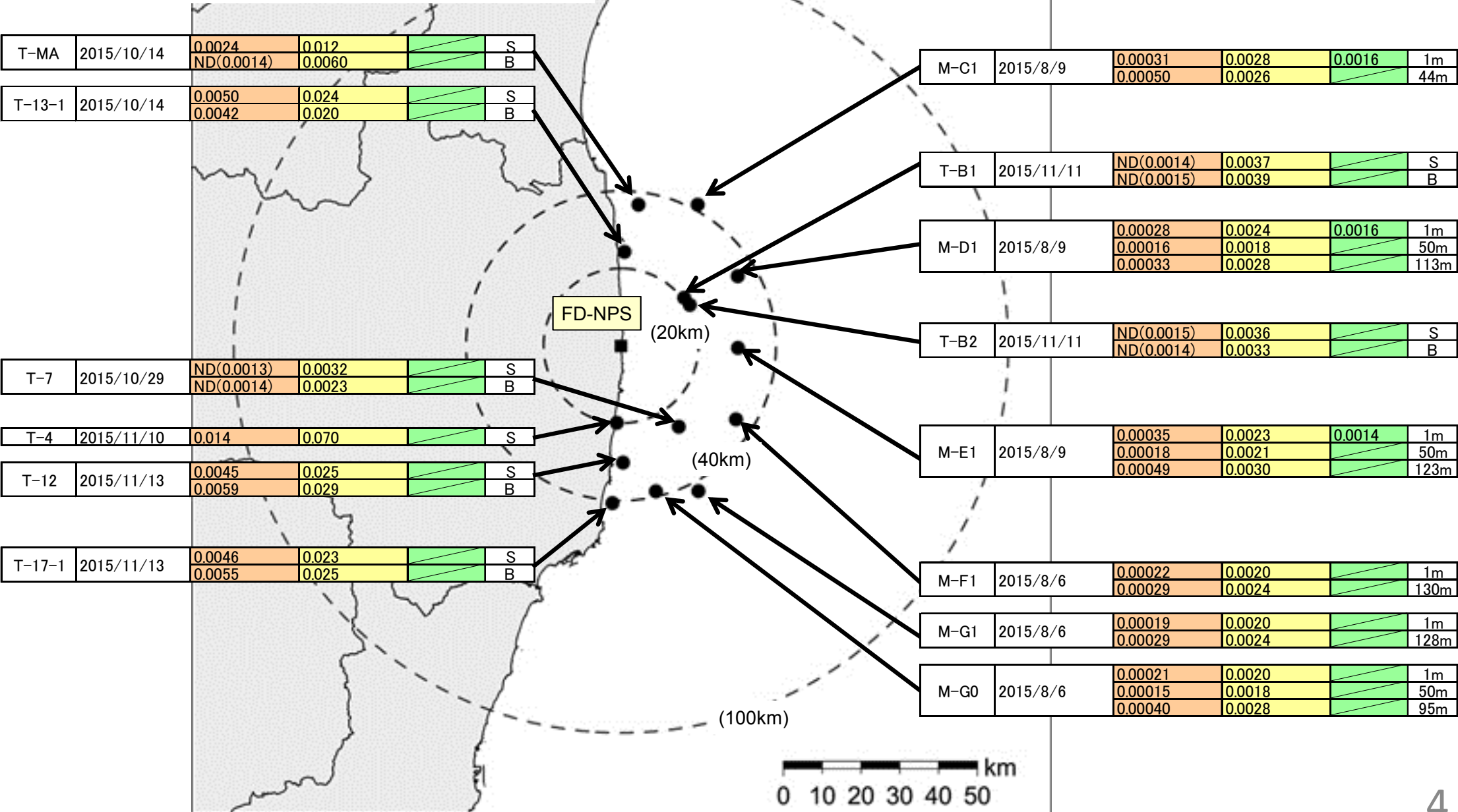


# Sea area between 20-100km radius from the NPS(1)

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



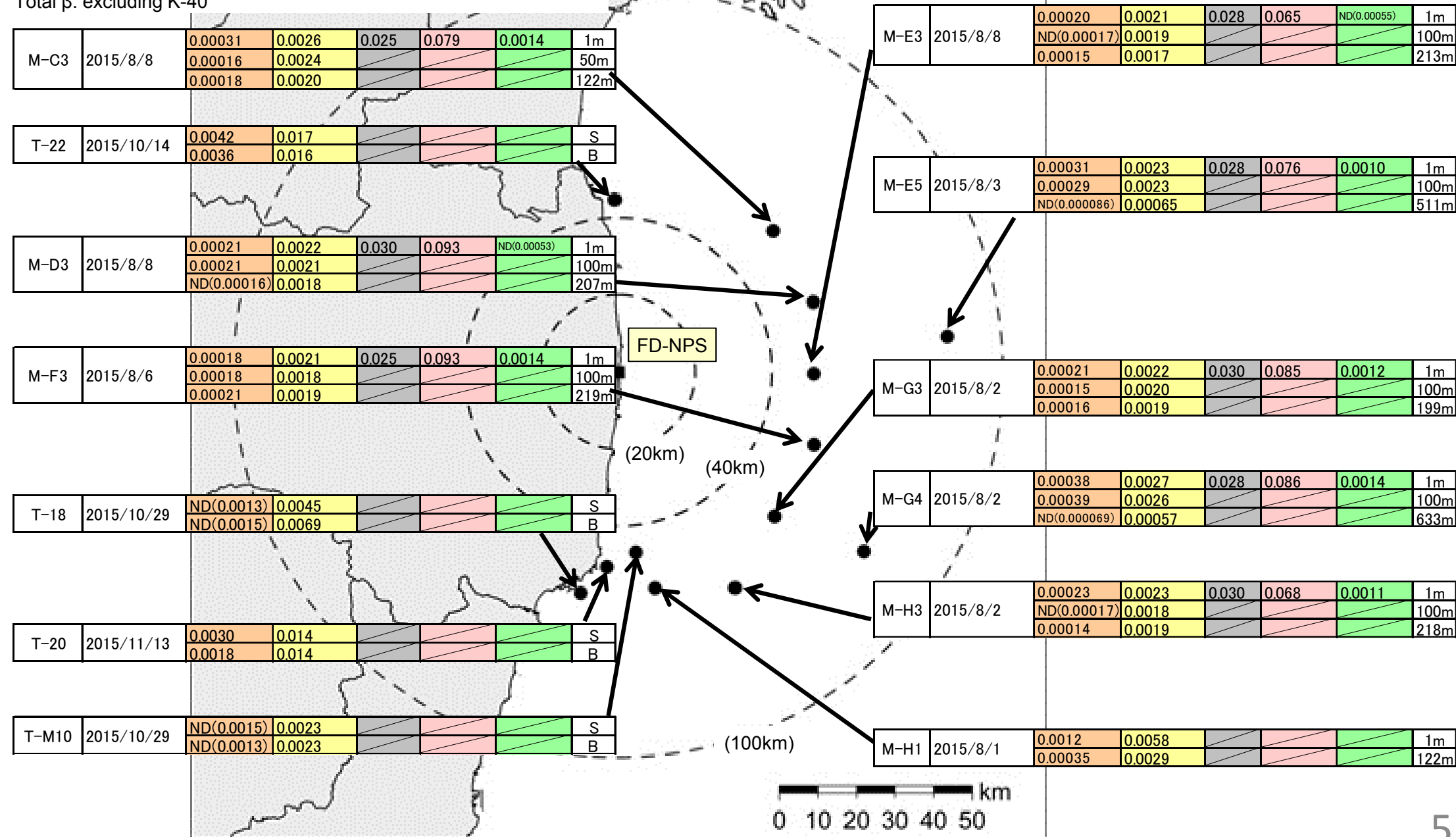
# Sea area between 20-100km radius from the NPS(2)

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

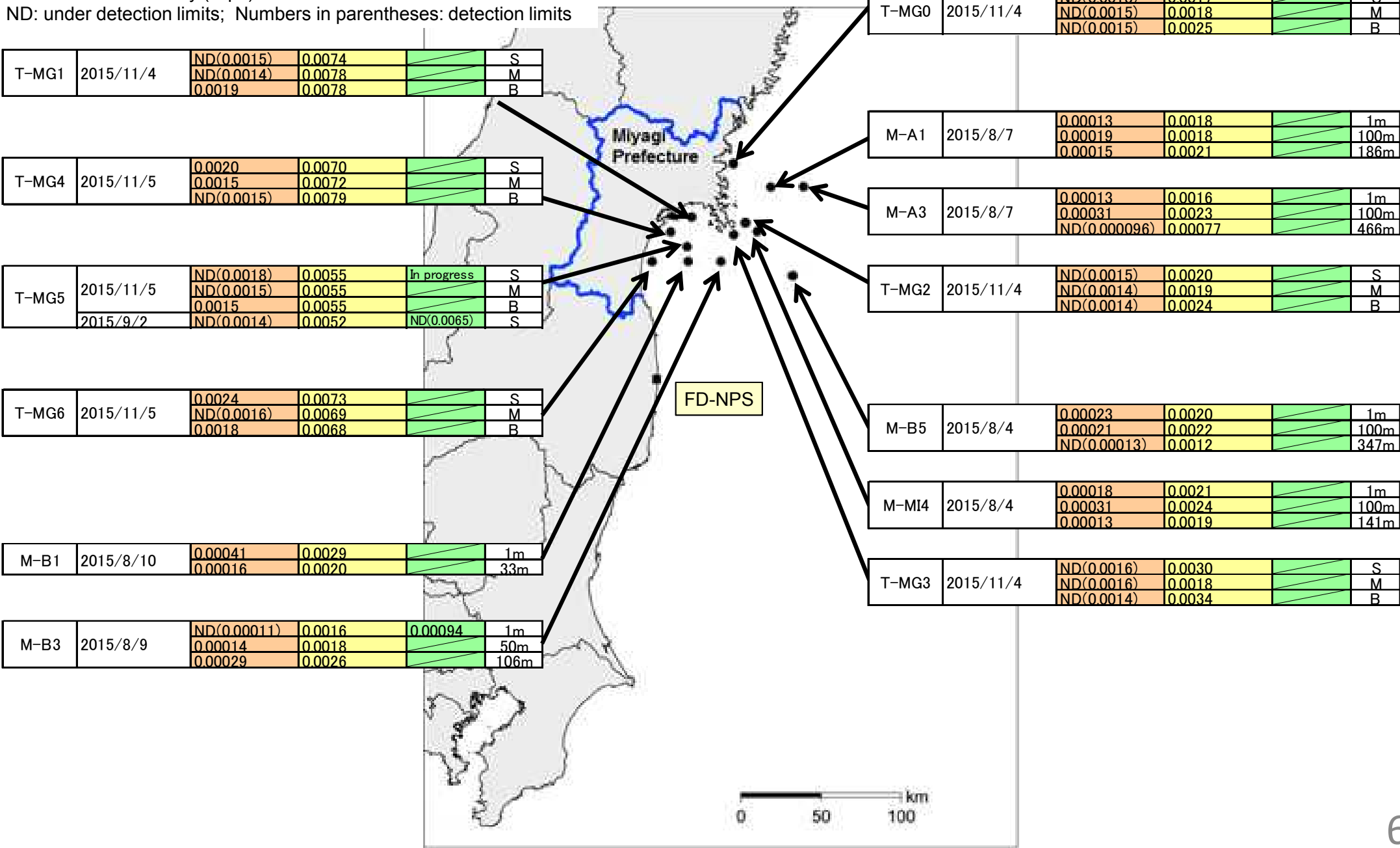


# Sea area along and off the coast of Miyagi Prefecture

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

T-Z	2015/11/9	ND(0.91)	ND(1.2)	/	S
		ND(0.91)	ND(1.2)		B

T-A	2015/11/9	ND(1.0)	ND(1.2)	/	S
		ND(0.98)	ND(1.2)		B

T-B	2015/11/11	ND(1.0)	ND(1.0)	/	S
		ND(1.1)	ND(1.2)		B

M-J1	2015/7/30	0.00058	0.0035	0.0011	1m
		0.0010	0.0051	/	37m

T-C	2015/11/10	ND(0.86)	ND(1.1)	In progress	S
		ND(0.99)	ND(1.2)	/	B
	2015/9/16	ND(0.99)	ND(1.0)	ND(0.0083)	S

M-K1	2015/7/30	0.00035	0.0028	/	1m
		0.00028	0.0022	/	20m

T-D	2015/11/11	ND(1.0)	ND(1.2)	/	S
		ND(0.98)	ND(1.2)		B

M-M1	2015/7/29	0.00023	0.0020	/	1m
		0.00039	0.0026	/	103m

M-I0	2015/7/31	0.00037	0.0025	0.0011	1m
		0.00040	0.0031	/	61m

M-I1	2015/8/1	0.00046	0.0031	/	1m
		ND(0.00013)	0.0018	/	50m
		0.00033	0.0025	/	88m

M-I3	2015/8/1	0.00033	0.0025	/	1m
		0.00028	0.0023	/	100m
		0.00031	0.0023	/	173m

M-IB2	2015/7/31	0.00089	0.0045	/	1m
		0.00052	0.0030	/	105m

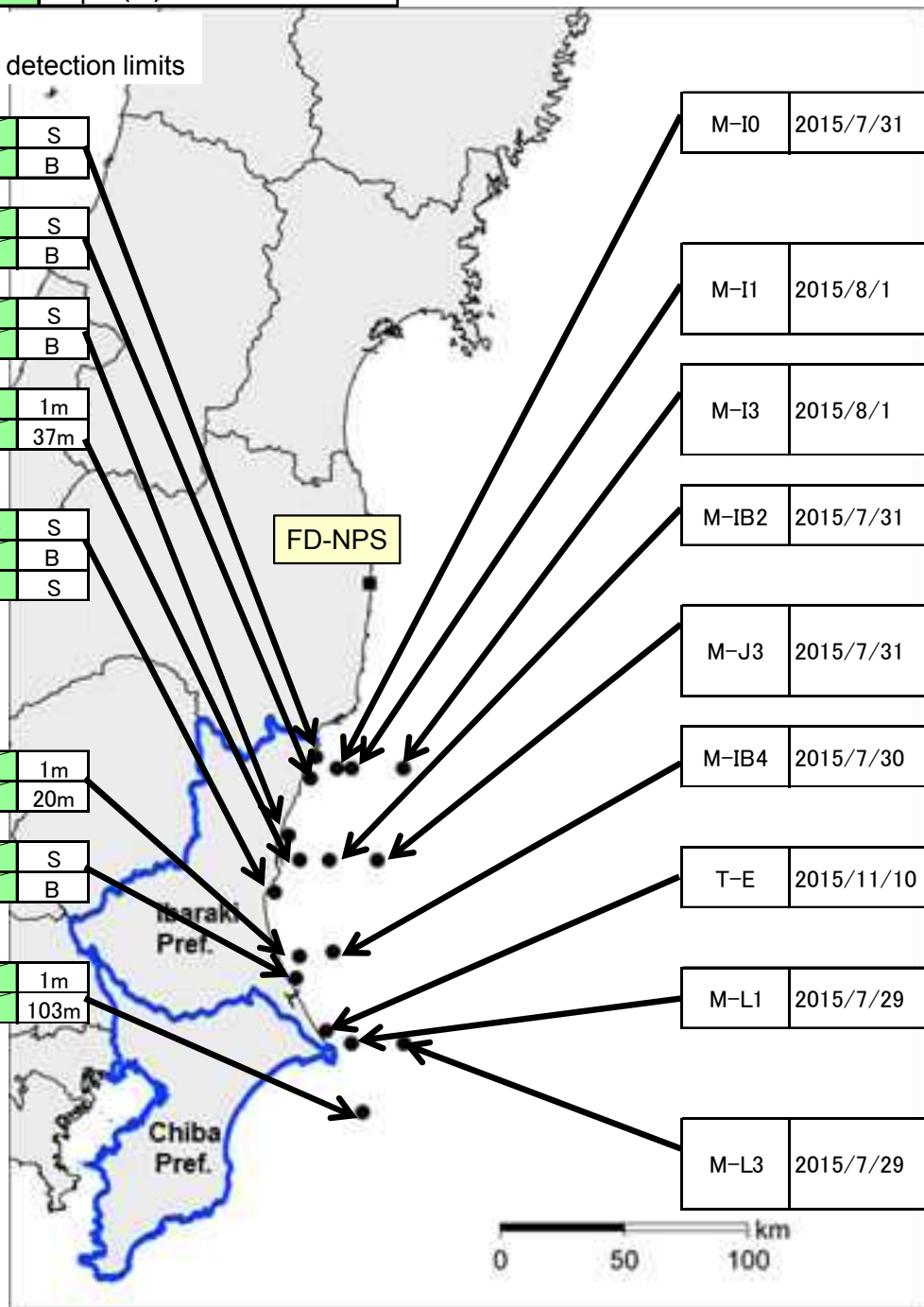
M-J3	2015/7/31	0.00040	0.0030	/	1m
		0.00029	0.0024	/	100m
		ND(0.000067)	0.00061	/	550m

M-IB4	2015/7/30	0.00034	0.0028	/	1m
		0.00026	0.0024	/	110m

T-E	2015/11/10	ND(0.91)	ND(1.2)	/	S
		ND(0.91)	ND(1.1)		B

M-L1	2015/7/29	0.00042	0.0031	/	1m
		0.00061	0.0032	/	33m

M-L3	2015/7/29	0.00041	0.0030	/	1m
		0.00028	0.0025	/	100m
		0.00018	0.0022	/	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	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

