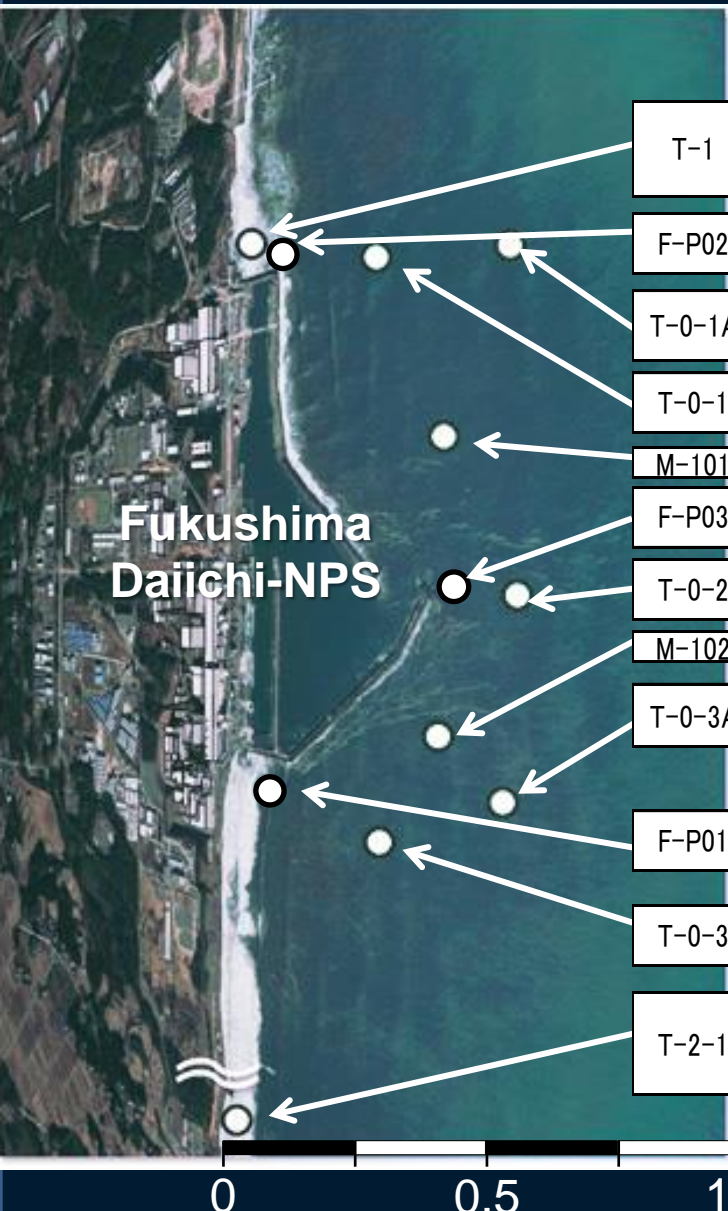


# Sea Area Monitoring

May 31, 2016

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+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	2016/5/16	ND(0.76)	ND(0.67)	11 <sup>*1</sup>	2.0				
	2016/4/4	ND(0.59)	ND(0.66)	16 <sup>*1</sup>	ND(1.6)	0.057	ND(2.0)		
	2015/10/14	ND(0.69)	ND(0.65)	13 <sup>*1</sup>	ND(1.7)	0.087	ND(1.9)	ND(5.8 × 10 <sup>-6</sup> )	(1.0 ± 0.24) × 10 <sup>-5</sup>
F-P02	2016/3/3	ND(0.054)	0.065	0.05 <sup>*2</sup>	ND(0.40)	0.002		In progress	In progress
	2016/2/8	ND(0.051)	ND(0.045)	0.03 <sup>*2</sup>	ND(0.49)	0.002		ND(6.0 × 10 <sup>-6</sup> )	ND(6.0 × 10 <sup>-6</sup> )
T-0-1A	2016/5/16	ND(0.63)	ND(0.64)	ND(16) <sup>*1</sup>	In progress				
	2016/5/9	ND(0.87)	ND(0.50)	ND(17) <sup>*1</sup>	ND(1.6)				
T-0-1	2016/5/16	ND(0.59)	ND(0.70)	ND(16) <sup>*1</sup>	In progress				
	2016/5/9	ND(0.79)	ND(0.88)	ND(17) <sup>*1</sup>	ND(1.6)				
M-101	2016/1/13	0.011	0.054		0.17	0.0036			
F-P03	2016/3/3	ND(0.056)	0.12	0.04 <sup>*2</sup>	ND(0.39)	0.005		In progress	In progress
	2016/2/8	ND(0.069)	0.15	0.04 <sup>*2</sup>	0.63	0.014		ND(6.0 × 10 <sup>-6</sup> )	ND(8.0 × 10 <sup>-6</sup> )
T-0-2	2016/5/16	ND(0.58)	ND(0.62)	ND(16) <sup>*1</sup>	In progress				
	2016/5/9	ND(0.71)	ND(0.67)	ND(17) <sup>*1</sup>	ND(1.6)				
M-102	2016/1/14	0.0050	0.026		0.10	0.0015			
T-0-3A	2016/5/16	ND(0.81)	ND(0.85)	ND(16) <sup>*1</sup>	In progress				
	2016/5/9	ND(0.78)	ND(0.67)	ND(17) <sup>*1</sup>	ND(1.6)				
F-P01	2016/3/3	ND(0.060)	0.048	0.04 <sup>*2</sup>	ND(0.40)	0.001		In progress	In progress
	2016/2/8	ND(0.052)	0.051	0.02 <sup>*2</sup>	ND(0.49)	0.002		ND(6.0 × 10 <sup>-6</sup> )	ND(6.0 × 10 <sup>-6</sup> )
T-0-3	2016/5/16	ND(0.59)	ND(0.62)	ND(16) <sup>*1</sup>	In progress				
	2016/5/9	ND(0.77)	ND(0.50)	ND(17) <sup>*1</sup>	ND(1.6)				
T-2-1	2016/5/16	ND(0.64)	ND(0.76)	9.2 <sup>*1</sup>	ND(1.5)				
	2016/4/4	ND(0.54)	ND(0.57)	12 <sup>*1</sup>	ND(1.6)	ND(0.0085)	ND(1.6)		
	2015/10/14	ND(0.88)	ND(0.78)	11 <sup>*1</sup>	ND(1.7)	ND(0.0093)	ND(1.9)	ND(5.5 × 10 <sup>-6</sup> )	(1.8 ± 0.30) × 10 <sup>-5</sup>

0 0.5 1km

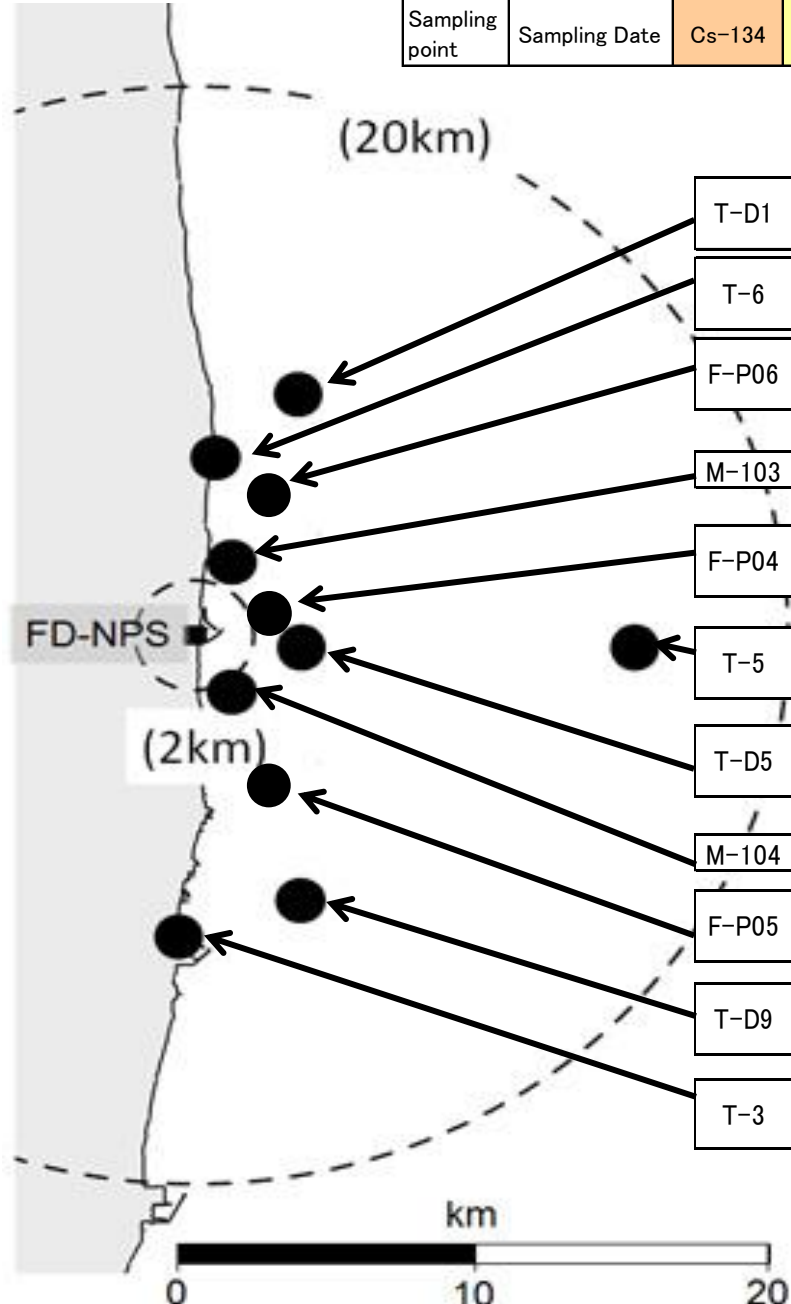
# Sea area between 2-20km radius from the NPS (1)

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
											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



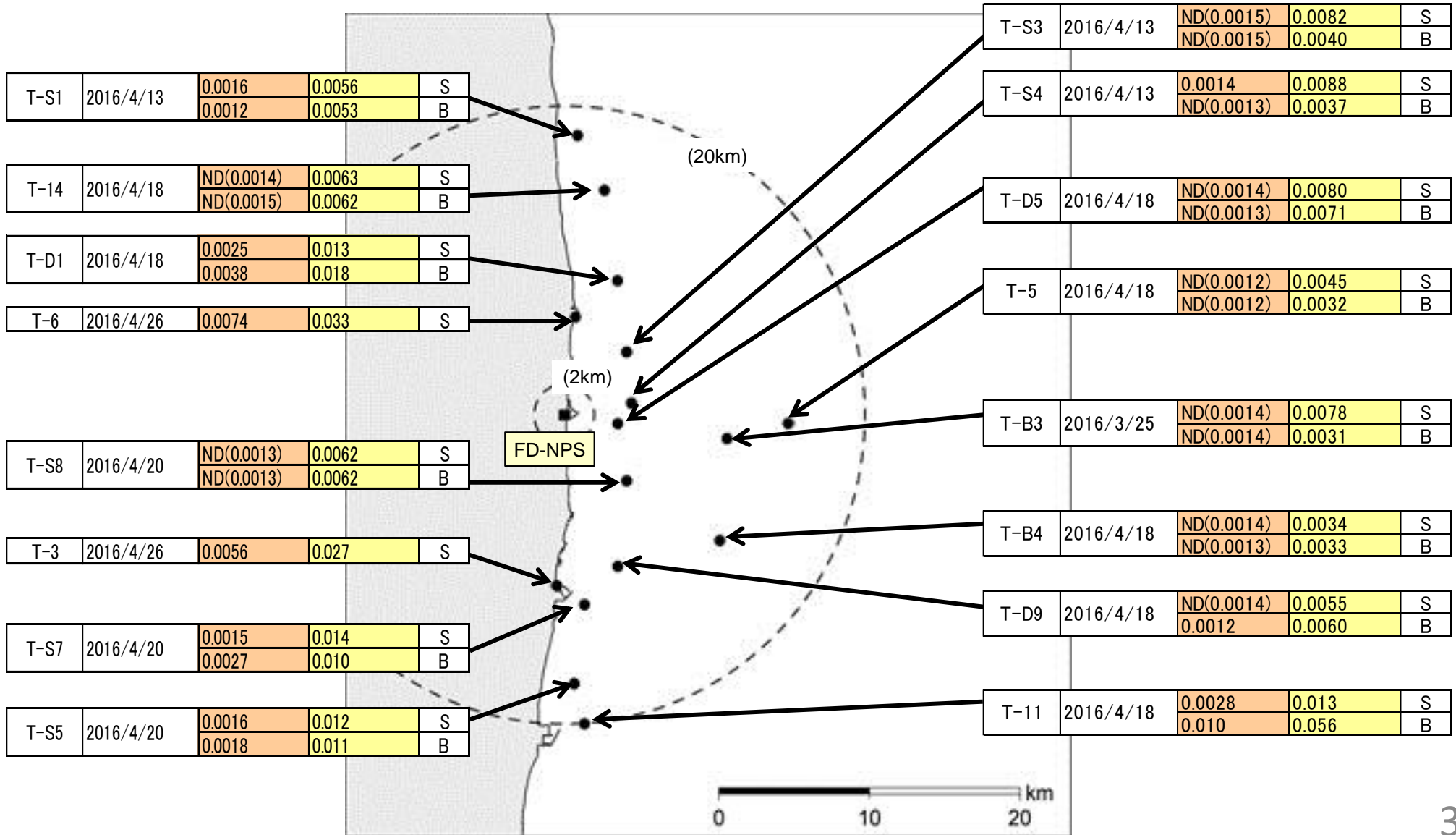
T-D1	2016/4/5	0.0027	0.014	ND(18) <sup>*1</sup>	ND(0.35)	ND(0.0078)	ND(1.9)			S
	2015/10/5	0.0029	0.010	ND(16) <sup>*1</sup>	ND(0.36)	ND(0.0066)	ND(1.6)	ND( $5.1 \times 10^{-6}$ )	ND( $5.1 \times 10^{-6}$ )	S
T-6	2016/4/19	0.011	0.064	ND(17) <sup>*1</sup>	ND(0.31)					S
	2016/4/5	0.033	0.16	ND(18) <sup>*1</sup>	ND(0.30)					S
F-P06	2016/3/3	ND(0.059)	ND(0.047)	0.04 <sup>*2</sup>	0.45	0.001		In progress	In progress	S
	2016/2/8	ND(0.063)	0.058	0.02 <sup>*2</sup>	0.51	0.001		ND( $1.3 \times 10^{-5}$ )	ND( $1.0 \times 10^{-5}$ )	S
M-103	2016/1/13	0.0031	0.015		0.087	0.0016				0.5m
F-P04	2016/3/3	ND(0.063)	ND(0.047)	ND(0.02) <sup>*2</sup>	ND(0.39)	0.001		In progress	In progress	S
	2016/2/8	ND(0.068)	ND(0.047)	0.03 <sup>*2</sup>	0.54	0.002		ND( $9.0 \times 10^{-6}$ )	ND( $8.0 \times 10^{-6}$ )	S
T-5	2016/4/5	ND(0.0011)	0.0055	ND(18) <sup>*1</sup>	ND(0.35)	ND(0.0064)	ND(1.6)			S
	2015/10/6	ND(0.0015)	0.0042	ND(16) <sup>*1</sup>	ND(0.36)	ND(0.0067)	ND(1.9)	ND( $5.1 \times 10^{-6}$ )	( $7.2 \pm 1.9$ ) $\times 10^{-6}$	S
T-D5	2016/4/5	0.0018	0.012	ND(18) <sup>*1</sup>	ND(0.35)	ND(0.0075)	ND(1.9)			S
	2015/10/5	ND(0.0016)	0.0085	ND(16) <sup>*1</sup>	ND(0.36)	ND(0.0062)	ND(1.6)	ND( $5.1 \times 10^{-6}$ )	ND( $5.3 \times 10^{-6}$ )	S
M-104	2016/1/14	0.0045	0.022		0.11	0.0017				0.5m
F-P05	2016/3/3	ND(0.069)	ND(0.054)	0.03 <sup>*2</sup>	ND(0.40)	0.001		In progress	In progress	S
	2016/2/8	ND(0.058)	ND(0.052)	0.03 <sup>*2</sup>	0.76	0.002		ND( $1.2 \times 10^{-5}$ )	ND( $9.0 \times 10^{-6}$ )	S
T-D9	2016/4/5	0.0015	0.010	ND(18) <sup>*1</sup>	ND(0.35)	ND(0.0076)	ND(1.6)			S
	2015/10/6	0.0026	0.013	ND(16) <sup>*1</sup>	ND(0.36)	ND(0.0068)	ND(1.9)	ND( $5.2 \times 10^{-6}$ )	ND( $5.0 \times 10^{-6}$ )	S
T-3	2016/4/19	0.0066	0.028	ND(15) <sup>*1</sup>	ND(0.32)					S
	2016/4/5	0.0068	0.040	ND(17) <sup>*1</sup>	ND(0.30)					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	2016/4/12	ND(0.0015)	0.0046		S
		ND(0.0015)	0.0051		B

T-13-1	2016/4/12	ND(0.0014)	0.0065		S
		ND(0.0014)	0.0064		B

T-7	2016/4/8	ND(0.0013)	0.0022		S
		ND(0.0012)	0.0033		B

T-4	2016/4/26	0.0057	0.027		S
-----	-----------	--------	-------	--	---

T-12	2016/4/8	ND(0.0013)	0.0073		S
		ND(0.0015)	0.0070		B

T-17-1	2016/4/8	ND(0.0013)	0.0075		S
		ND(0.0014)	0.0072		B

M-C1	2016/2/3	0.00096	0.0051		1m
		0.00074	0.0051		49m

T-B1	2016/3/3	ND(0.0013)	0.0029		S
		ND(0.0014)	0.0042		B

M-D1	2016/2/1	0.00038	0.0029		1m
		0.00029	0.0027		50m
		0.00025	0.0022		113m

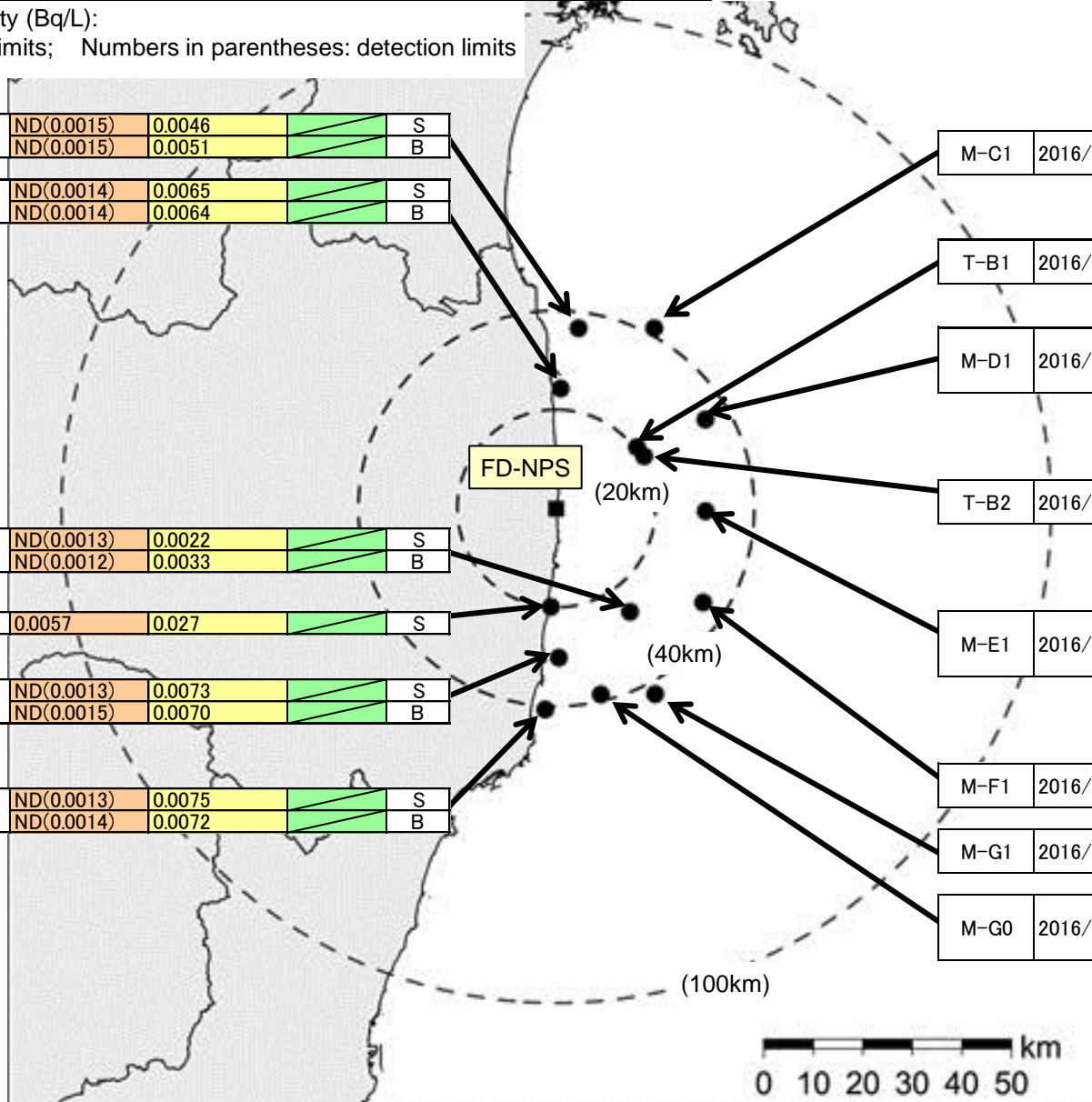
T-B2	2016/3/3	ND(0.0014)	0.0034		S
		ND(0.0013)	0.0036		B

M-E1	2016/1/26	0.00024	0.0018		1m
		0.00017	0.0021		50m
		0.00026	0.0020		129m

M-F1	2016/1/25	0.00015	0.0019		1m
		0.00022	0.0020		133m

M-G1	2016/1/24	0.00025	0.0023		1m
		0.00022	0.0022		130m

M-G0	2016/1/24	0.00018	0.0024		1m
		0.00035	0.0025		50m
		0.00028	0.0025		100m





# 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

M-C3	2016/2/1	0.00017	0.0020	0.024	0.091	0.0018	1m
		0.00014	0.0018				50m
		0.00017	0.0019				123m

T-22	2016/4/12	0.0014	0.0093				S
		ND(0.0014)	0.0059				B

M-D3	2016/2/1	0.00013	0.0018	0.029	0.076	0.0013	1m
		0.00013	0.0018				100m
		ND(0.00015)	0.0019				211m

M-F3	2016/2/2	0.00019	0.0019	0.023	0.085	0.0015	1m
		ND(0.00015)	0.0018				100m
		ND(0.00014)	0.0017				221m

T-18	2016/4/8	ND(0.0012)	0.0066				S
		ND(0.0011)	0.0044				B

T-20	2016/4/8	ND(0.0016)	0.0094				S
		ND(0.0013)	0.0051				B

T-M10	2016/4/8	ND(0.0012)	0.0058				S
		ND(0.0012)	0.0035				B

M-E3	2016/2/2	0.00018	0.0020	0.029	0.097	0.0012	1m
		0.00018	0.0019				100m
		0.00021	0.0019				221m

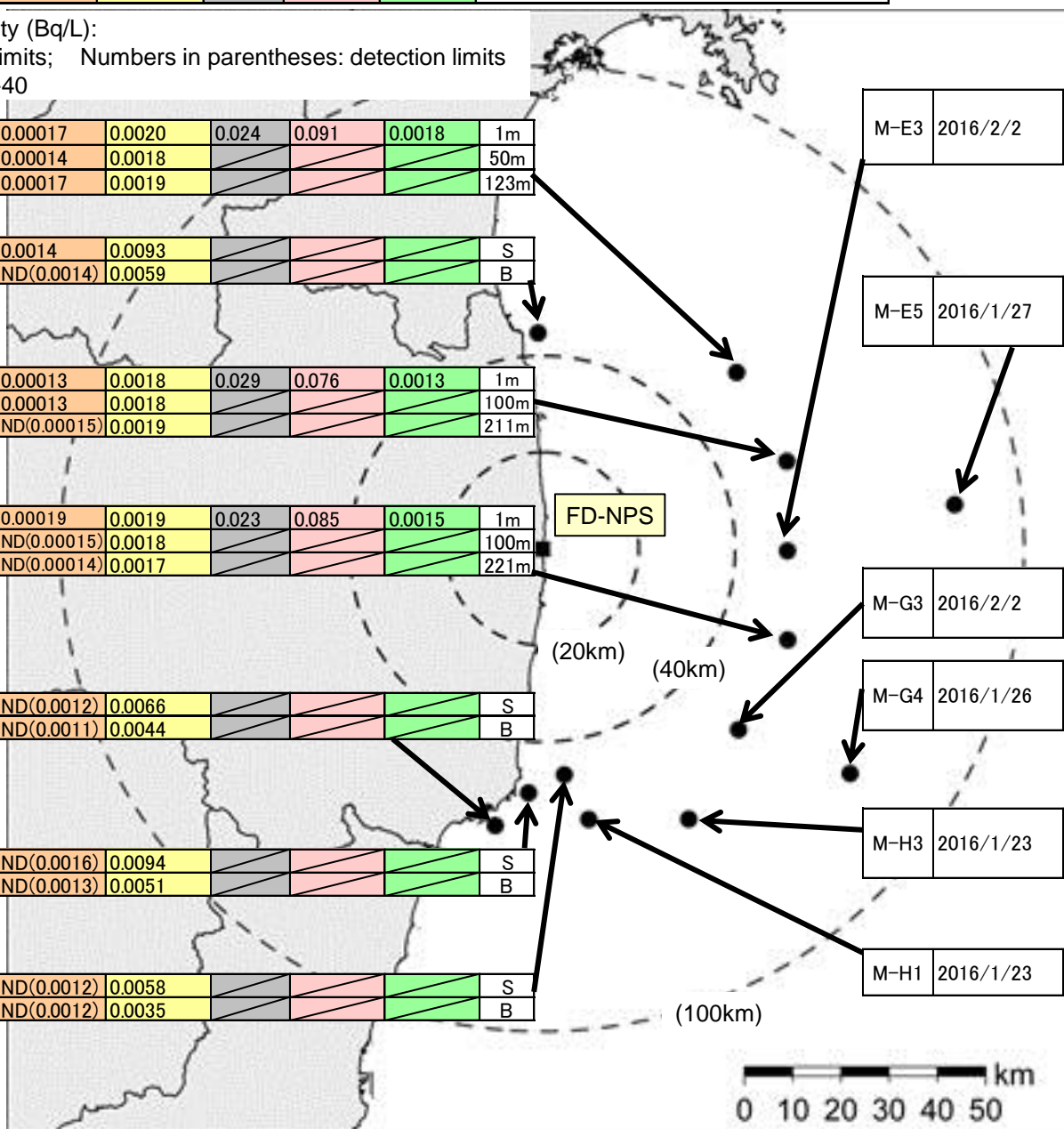
M-E5	2016/1/27	0.00017	0.0021	0.032	0.065	0.0020	1m
		ND(0.00017)	0.0021				100m
		ND(0.000079)	0.00072				520m

M-G3	2016/2/2	0.00018	0.0019	0.025	0.076	0.0015	1m
		ND(0.00015)	0.0020				100m
		0.00017	0.0019				200m

M-G4	2016/1/26	0.00018	0.0019	0.029	0.058	0.0017	1m
		ND(0.00017)	0.0020				100m
		ND(0.000090)	0.00050				645m

M-H3	2016/1/23	ND(0.00016)	0.0020	0.027	0.065	ND(0.00062)	1m
		0.00018	0.0020				100m
		ND(0.00015)	0.0019				224m

M-H1	2016/1/23	0.00039	0.0029				1m
		0.00079	0.0040				125m



# Sea area along and off the coast of Miyagi Prefecture

Sampling point	Sampling Date	Cs-134	Cs-137	Sr-90	S/M/B	Depth(m) from sea level
----------------	---------------	--------	--------	-------	-------	-------------------------

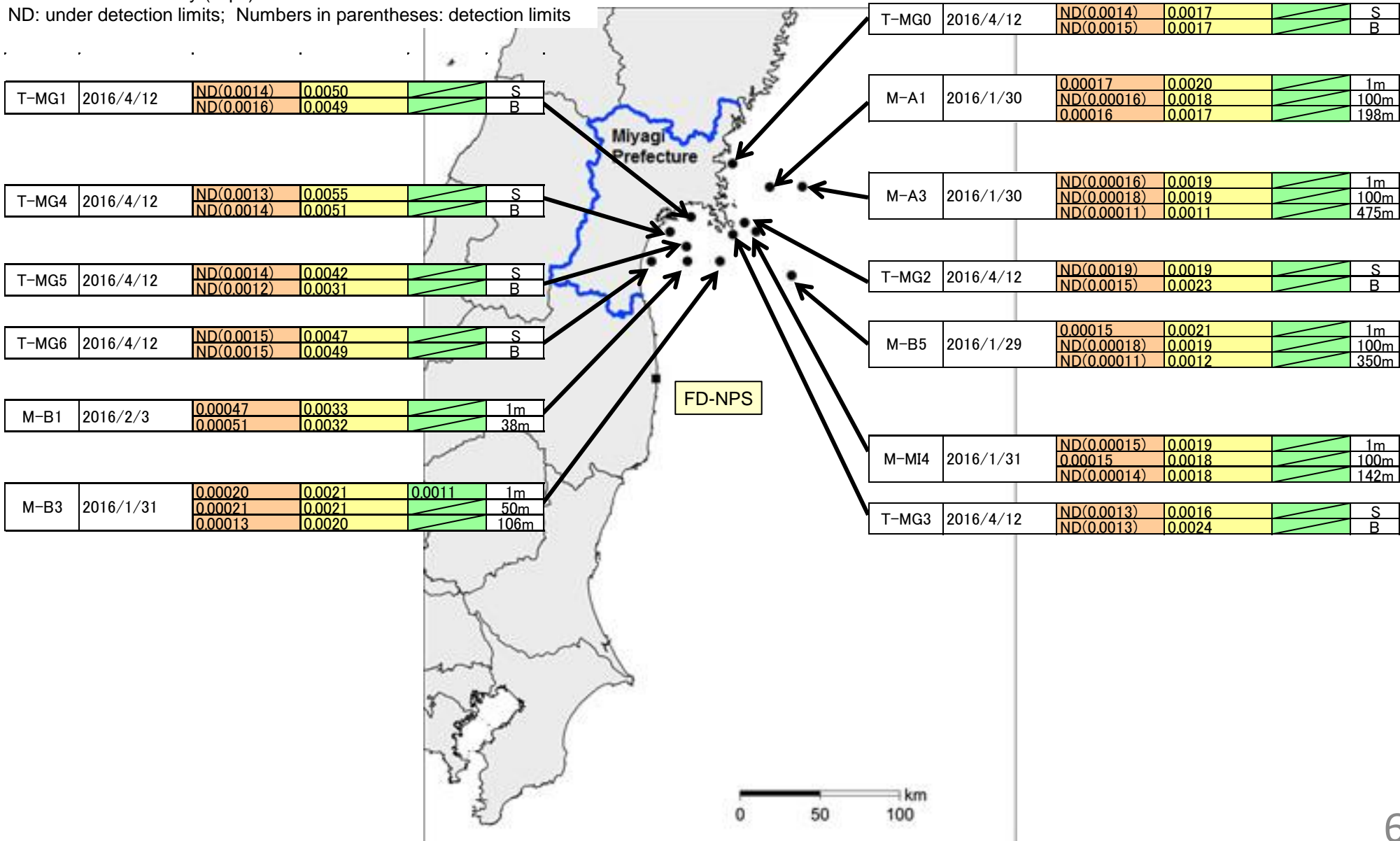
S:2m below sea level

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

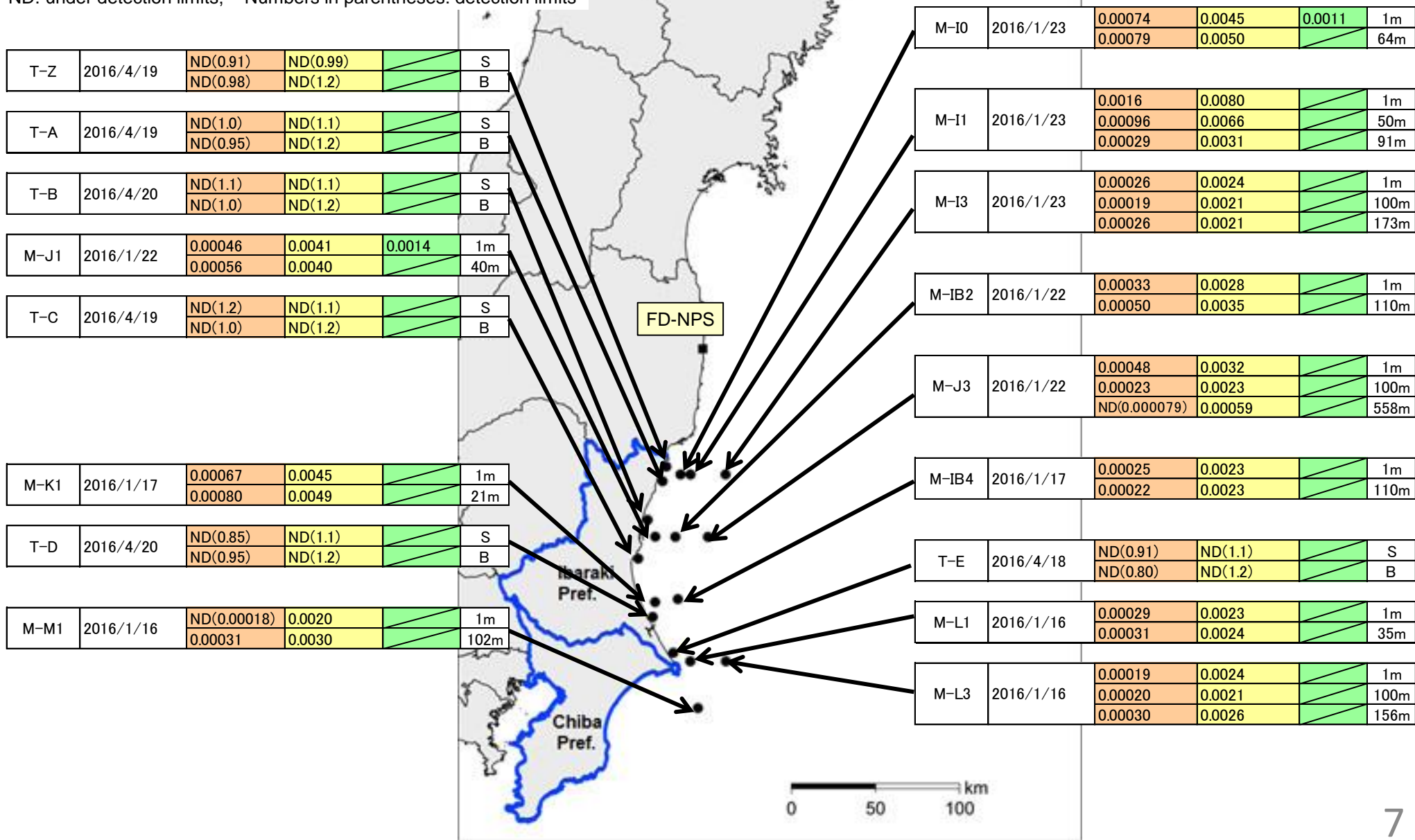


# Sea area along and off the coast of Ibaraki Pref. and Chiba Pref.

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
----------------	---------------	--------	--------	-------------------------

Sea water radioactivity (Bq/L):

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

M-10	2015/10/21	ND(0.00077)	0.0020	1m
		ND(0.00071)	0.0023	100m
		ND(0.00084)	0.0023	200m
		ND(0.00080)	0.0023	300m
		ND(0.00072)	0.0011	500m

M-14	2015/10/27	ND(0.00068)	0.0026	1m
		ND(0.00065)	0.0028	100m
		ND(0.00064)	0.0021	200m
		ND(0.00066)	0.0017	300m
		ND(0.00075)	0.00097	500m

M-19	2015/10/23	ND(0.00061)	0.0019	1m
		ND(0.00066)	0.0028	100m
		ND(0.00063)	0.0023	200m
		ND(0.00056)	0.0018	300m
		ND(0.00070)	0.00096	500m

M-20	2015/10/22	ND(0.00060)	0.0022	1m
		ND(0.00067)	0.0024	100m
		ND(0.00075)	0.0030	200m
		ND(0.00074)	0.0036	300m
		ND(0.00070)	0.0017	500m

M-25	2015/10/23	ND(0.00067)	0.0019	1m
		ND(0.00066)	0.0022	100m
		ND(0.00070)	0.0032	200m
		ND(0.00064)	0.0020	300m
		ND(0.00062)	0.00093	500m

M-11	2015/10/20	ND(0.00064)	0.0023	1m
		ND(0.00063)	0.0025	100m
		ND(0.00061)	0.0022	200m
		ND(0.00059)	0.0018	300m
		ND(0.00061)	0.0012	500m

M-15	2015/10/20	ND(0.00061)	0.0015	1m
		ND(0.00067)	0.0019	100m
		ND(0.00064)	0.0022	200m
		ND(0.00064)	0.0015	300m
		ND(0.00065)	0.00090	500m

M-21	2015/10/22	ND(0.00058)	0.0017	1m
		ND(0.00061)	0.0021	100m
		0.00071	0.0033	200m
		ND(0.00063)	0.0027	300m
		ND(0.00061)	0.0012	500m

M-26	2015/10/24	ND(0.00078)	0.0021	1m
		ND(0.00063)	0.0021	100m
		ND(0.00073)	0.0032	200m
		ND(0.00065)	0.0037	300m
		ND(0.00069)	0.0030	500m

M-27	2015/10/24	ND(0.00075)	0.0019	1m
		ND(0.00077)	0.0024	100m
		ND(0.00083)	0.0033	200m
		ND(0.00078)	0.0037	300m
		ND(0.00083)	0.0033	500m

