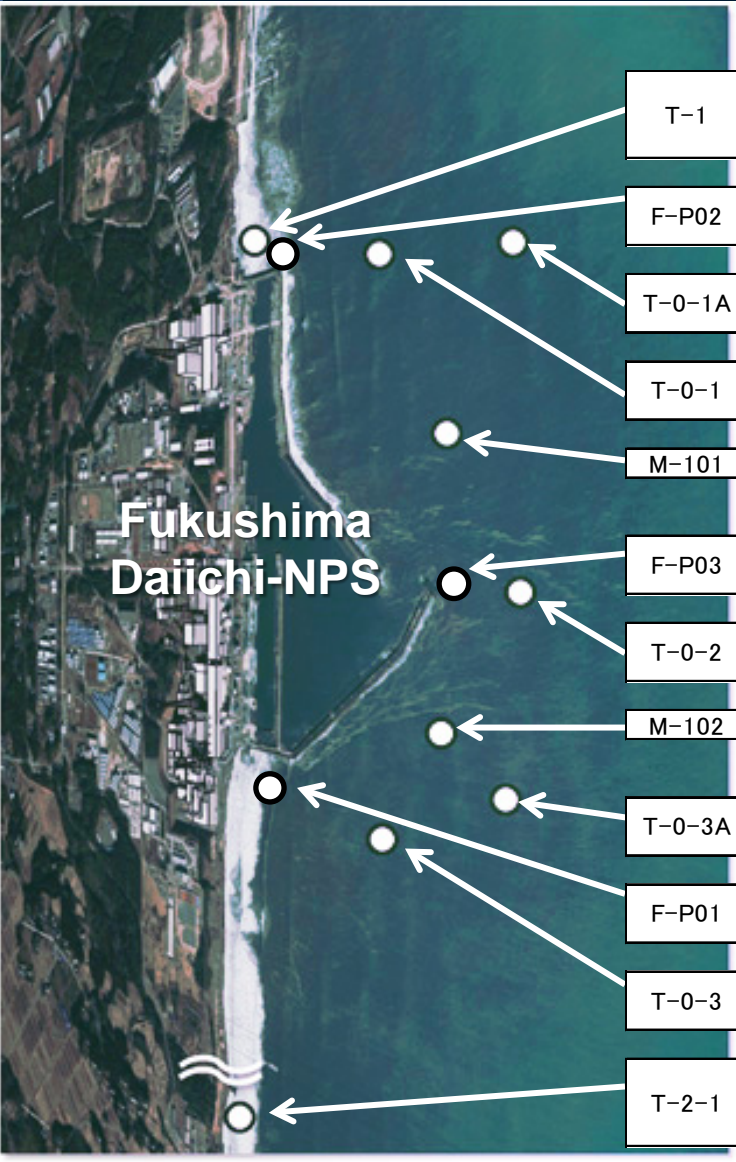


# Sea Area Monitoring

June 24, 2014

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+Pu-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	2014/6/9	ND(0.74)	ND(0.71)	12 <sup>*1</sup>	ND(1.6)				
	2014/4/14	ND(0.68)	ND(0.54)	14 <sup>*1</sup>	ND(1.6)	0.14	ND(1.5)		
	2014/4/10	ND(0.85)	ND(0.82)					ND( $5.6 \times 10^{-6}$ )	( $9.4 \pm 2.2$ ) $\times 10^{-6}$
F-P02	2014/4/14	ND(0.060)	ND(0.052)	0.04 <sup>*2</sup>	ND(0.41)	In progress		In progress	In progress
	2014/3/10	ND(0.067)	0.085	0.04 <sup>*2</sup>	ND(0.31)	0.005		$1.2 \times 10^{-5}$	ND( $8 \times 10^{-6}$ )
T-0-1A	2014/6/10	ND(0.59)	ND(0.64)	ND(17) <sup>*1</sup>	In progress				
	2014/6/3	ND(0.61)	ND(0.64)	ND(16) <sup>*1</sup>	ND(1.8)				
T-0-1	2014/6/10	ND(0.58)	ND(0.50)	ND(17) <sup>*1</sup>	In progress				
	2014/6/3	ND(0.76)	ND(0.68)	ND(16) <sup>*1</sup>	ND(1.8)				
M-101	2014/2/22	0.15	0.39		0.16	In progress			
F-P03	2014/4/14	ND(0.069)	ND(0.053)	0.03 <sup>*2</sup>	ND(0.41)	In progress		In progress	In progress
	2014/3/10	ND(0.065)	0.15	0.07 <sup>*2</sup>	ND(0.031)	0.046		$1.0 \times 10^{-5}$	ND( $8 \times 10^{-6}$ )
T-0-2	2014/6/10	ND(0.60)	ND(0.58)	ND(17) <sup>*1</sup>	In progress				
	2014/6/3	ND(0.63)	ND(0.78)	ND(16) <sup>*1</sup>	ND(1.8)				
M-102	2014/2/21	0.12	0.33		0.21	In progress			
T-0-3A	2014/6/10	ND(0.76)	ND(0.58)	ND(17) <sup>*1</sup>	In progress				
	2014/6/3	ND(0.46)	ND(0.46)	ND(16) <sup>*1</sup>	ND(1.8)				
F-P01	2014/4/14	ND(0.065)	0.078	0.04 <sup>*2</sup>	ND(0.40)	In progress		In progress	In progress
	2014/3/10	ND(0.069)	0.14	0.06 <sup>*2</sup>	0.40	0.026		$7 \times 10^{-6}$	ND( $6 \times 10^{-6}$ )
T-0-3	2014/6/10	ND(0.57)	ND(0.72)	ND(17) <sup>*1</sup>	In progress				
	2014/6/3	ND(0.72)	ND(0.91)	ND(16) <sup>*1</sup>	ND(1.8)				
T-2-1	2014/6/9	1.8	4.9	16 <sup>*1</sup>	ND(1.6)				
	2014/4/14	ND(0.55)	ND(0.53)	14 <sup>*1</sup>	ND(1.6)	0.012	ND(1.5)		
	2014/4/10	ND(0.70)	ND(0.58)	9.0 <sup>*1</sup>				ND( $5.6 \times 10^{-6}$ )	( $3.1 \pm 0.41$ ) $\times 10^{-5}$

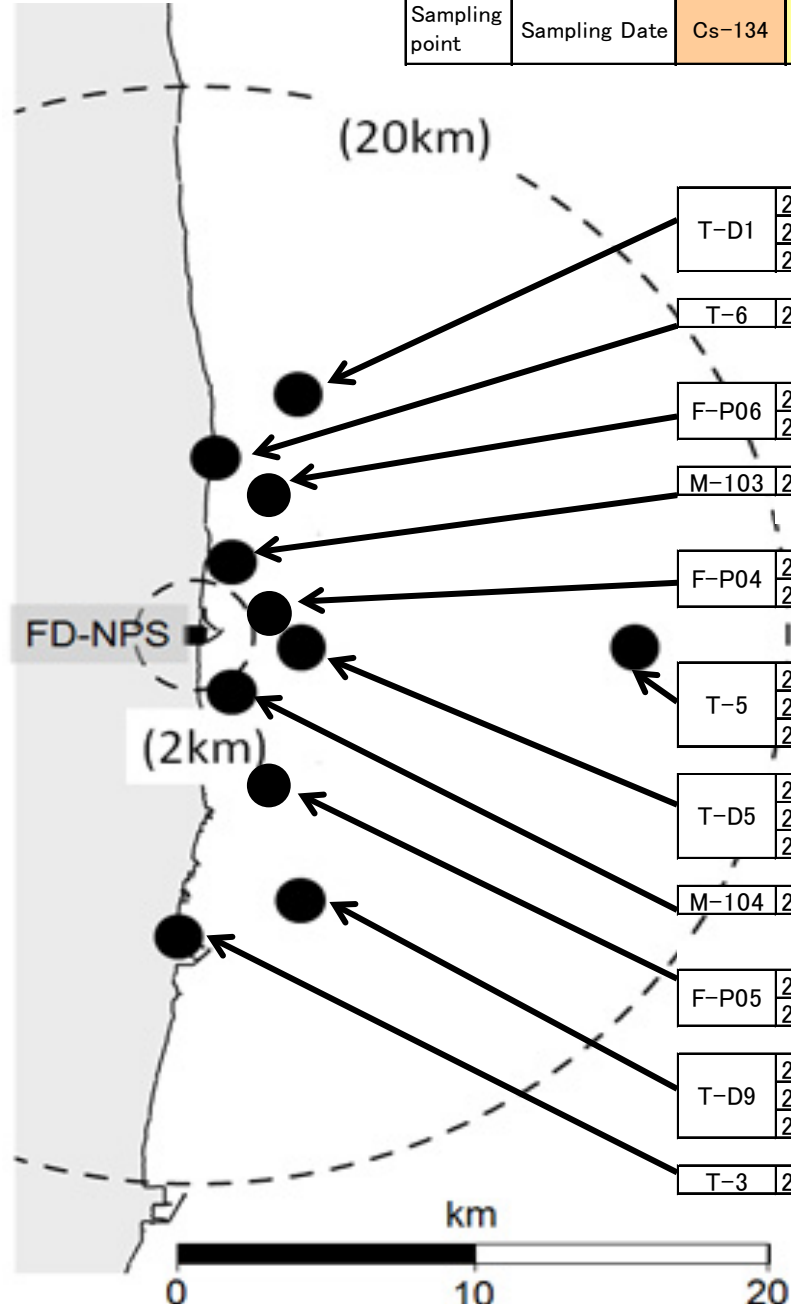
# Sea area between 2-20km radius from the NPS (1)

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



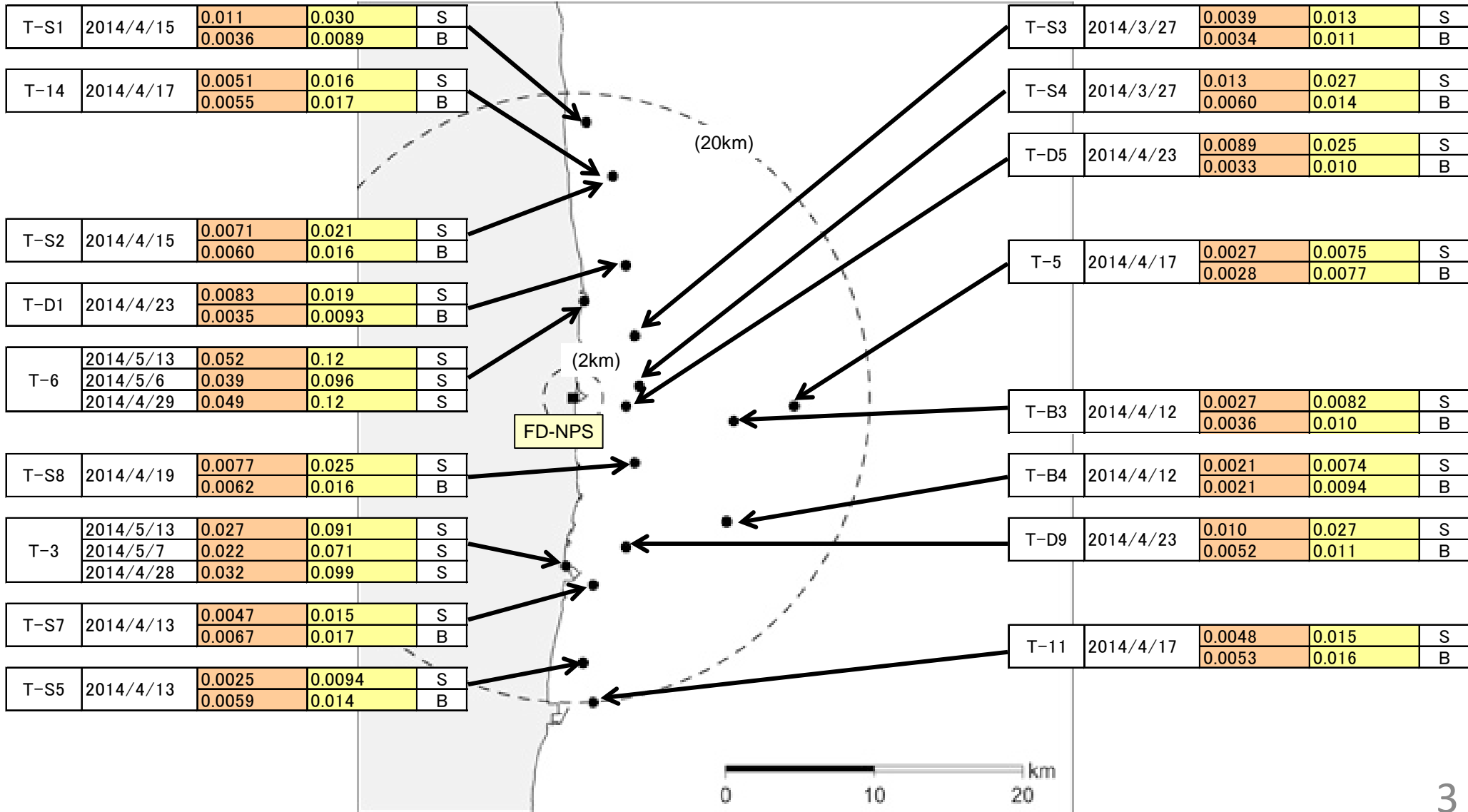
T-D1	2014/4/17	0.0082	0.022	ND(17)* <sup>1</sup>	ND(0.27)						S
	2014/4/1	0.0027	0.0086	ND(17)* <sup>1</sup>	ND(0.30)	ND(0.009)	ND(1.9)	In progress	In progress		S
	2014/3/4	0.0039	0.015	ND(15)* <sup>1</sup>	ND(0.29)	ND(0.009)	ND(1.9)	ND(7.3 × 10 <sup>-6</sup> )	(7.8+2.4) × 10 <sup>-6</sup>		S
T-6	2014/4/22	0.018	0.053	ND(16)* <sup>1</sup>	ND(0.32)						S
F-P06	2014/4/14	ND(0.058)	ND(0.047)	0.03* <sup>2</sup>	ND(0.41)	In progress		In progress	In progress		S
	2014/3/10	ND(0.058)	ND(0.049)	0.03* <sup>2</sup>	ND(0.30)	0.007		1.0 × 10 <sup>-5</sup>	ND(8 × 10 <sup>-6</sup> )		S
M-103	2014/2/22	0.035	0.087		0.098	In progress					0.5m
F-P04	2014/4/14	ND(0.072)	ND(0.051)	0.03* <sup>2</sup>	ND(0.41)	In progress		In progress	In progress		S
	2014/3/10	ND(0.067)	ND(0.061)	0.03* <sup>2</sup>	ND(0.31)	0.018		9 × 10 <sup>-6</sup>	ND(9 × 10 <sup>-6</sup> )		S
T-5	2014/4/17	0.0027	0.0075	ND(17)* <sup>1</sup>	ND(0.27)						S
	2014/4/2	ND(0.0014)	0.0044	ND(17)* <sup>1</sup>	ND(0.30)	ND(0.009)	ND(1.9)	In progress	In progress		S
	2014/3/5	0.0016	0.0042	ND(15)* <sup>1</sup>	ND(0.29)	ND(0.009)	ND(1.9)	ND(7.6 × 10 <sup>-6</sup> )	ND(7.3 × 10 <sup>-6</sup> )		S
T-D5	2014/4/17	0.010	0.027	ND(17)* <sup>1</sup>	ND(0.27)						S
	2014/4/1	0.0058	0.012	ND(17)* <sup>1</sup>	ND(0.30)	ND(0.009)	ND(1.9)	In progress	In progress		S
	2014/3/4	0.0073	0.018	ND(15)* <sup>1</sup>	ND(0.29)	ND(0.009)	ND(1.9)	ND(7.8 × 10 <sup>-6</sup> )	ND(8.4 × 10 <sup>-6</sup> )		S
M-104	2014/2/21	0.043	0.11		0.18	In progress					0.5m
F-P05	2014/4/14	ND(0.058)	ND(0.060)	0.03* <sup>2</sup>	ND(0.41)	In progress		In progress	In progress		S
	2014/3/10	ND(0.057)	ND(0.056)	0.03* <sup>2</sup>	ND(0.31)	0.009		ND(8 × 10 <sup>-6</sup> )	ND(7 × 10 <sup>-6</sup> )		S
T-D9	2014/4/17	0.0059	0.013	ND(17)* <sup>1</sup>	ND(0.27)						S
	2014/4/2	0.0041	0.010	ND(16)* <sup>1</sup>	ND(0.30)	ND(0.008)	ND(1.9)	In progress	In progress		S
	2014/3/3	0.0058	0.014	ND(15)* <sup>1</sup>	ND(0.29)	ND(0.008)	ND(1.9)	ND(7.1 × 10 <sup>-6</sup> )	(7.6+2.2) × 10 <sup>-6</sup>		S
T-3	2014/4/15	0.032	0.092	ND(16)* <sup>1</sup>	ND(0.32)						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):

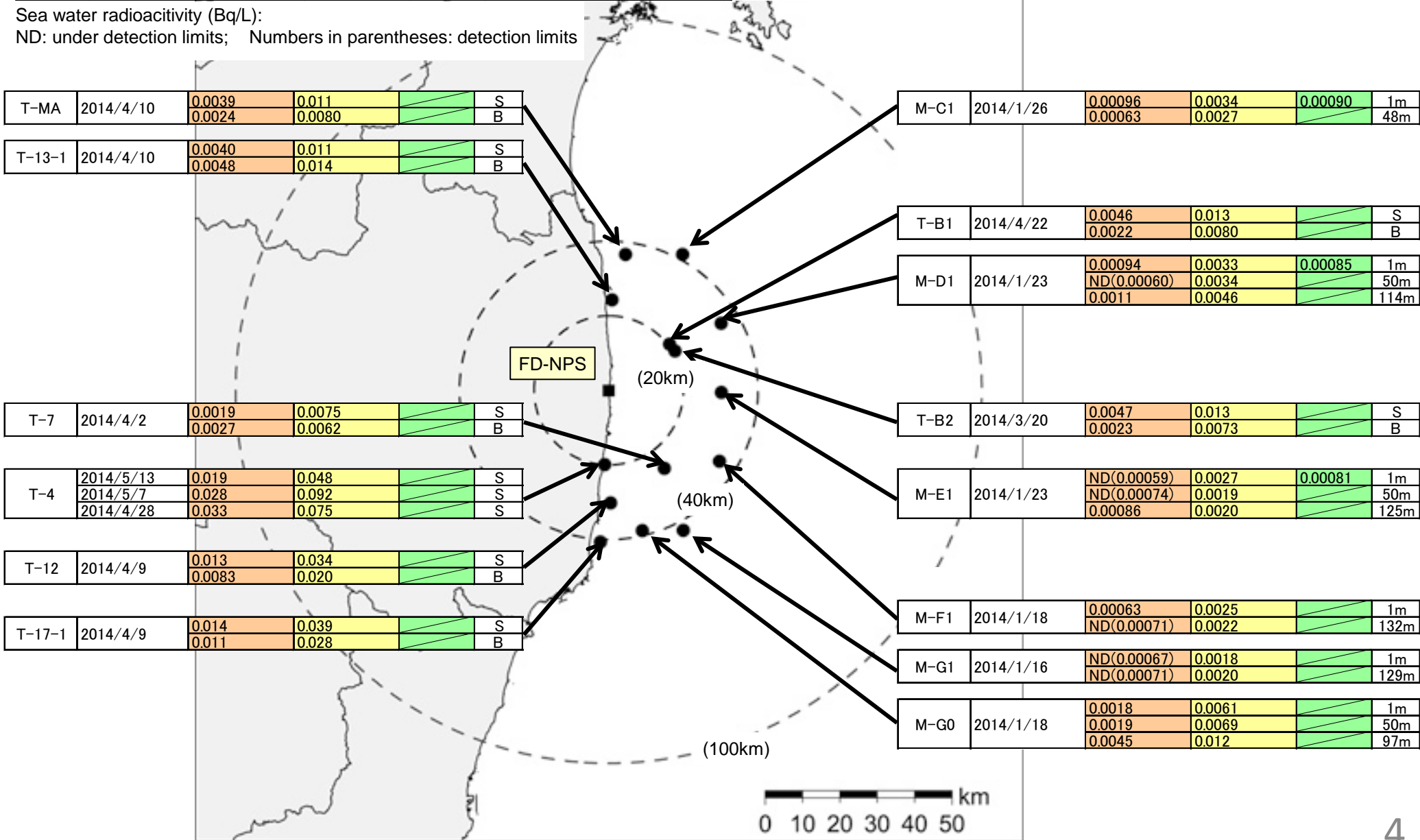
ND: under detection limits; Numbers in parentheses: detection limits



# 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						

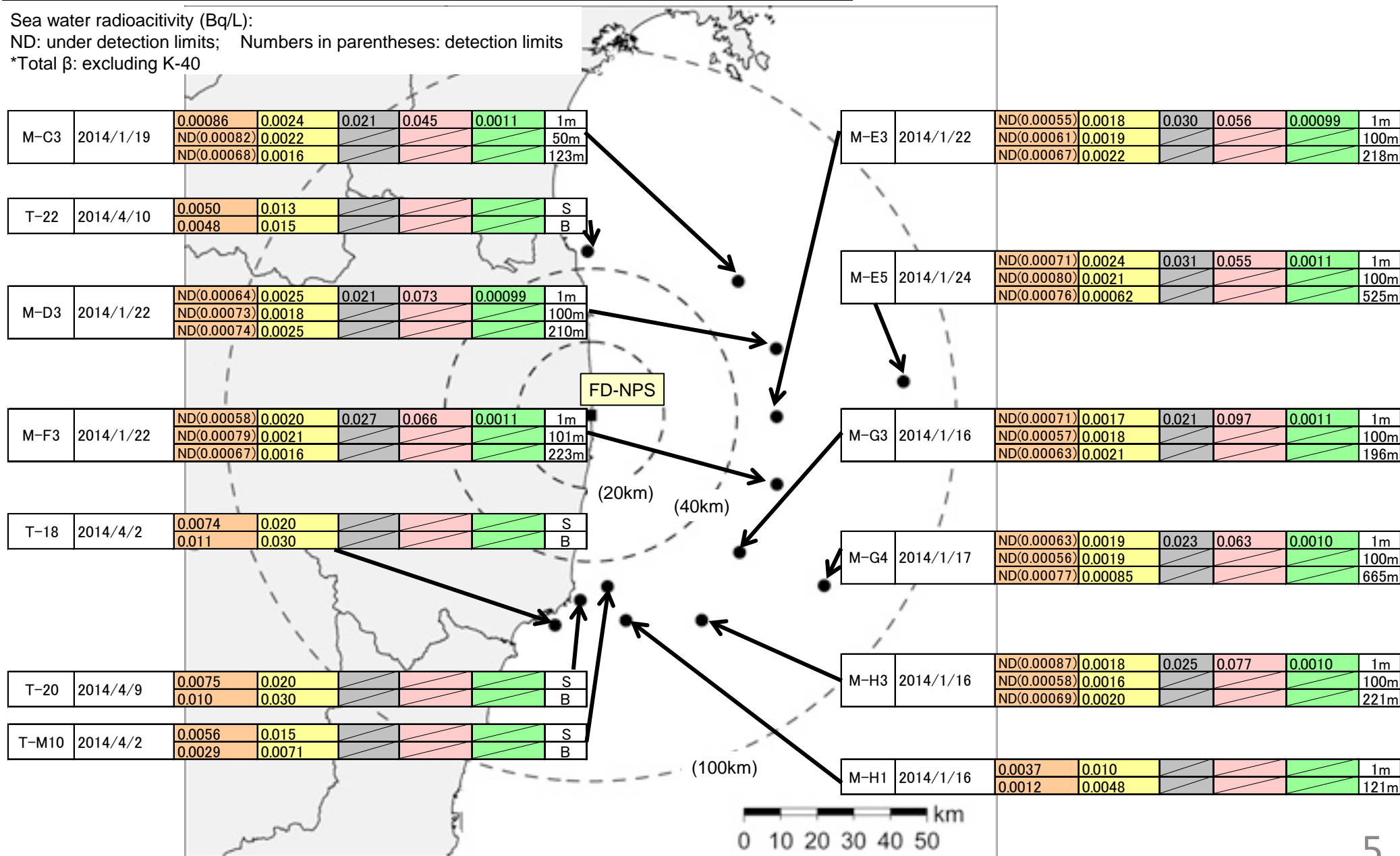
Sea water radioactivity (Bq/L):  
 ND: under detection limits; Numbers in parentheses: detection limits



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

Sampling point	Sampling Date	Cs-134	Cs-137	Total $\beta$ *	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  $\beta$ : 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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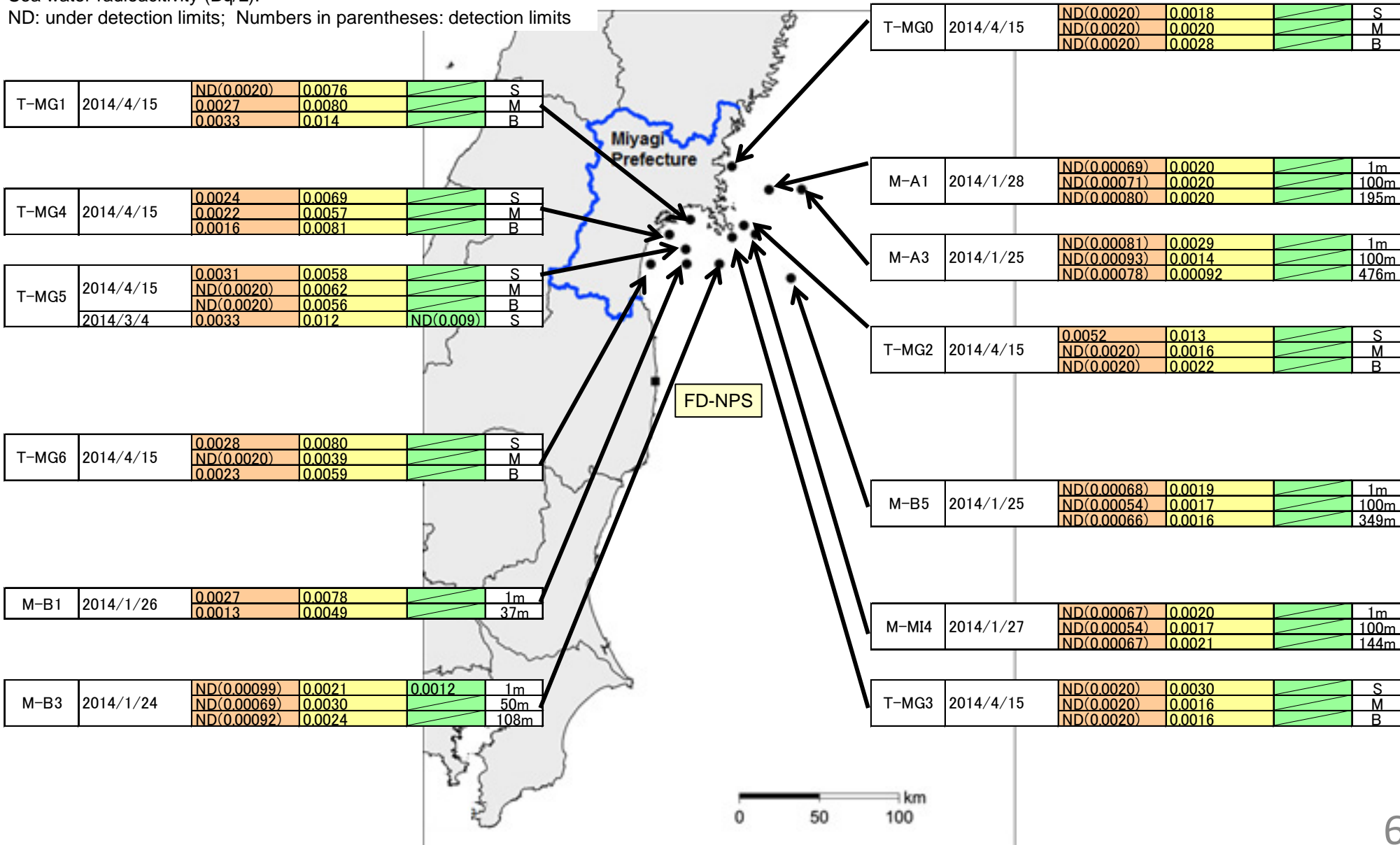
S:2m below sea level

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	2014/5/19	ND(1.1)	ND(1.2)	S
		ND(1.1)	ND(1.2)	

T-A	2014/5/19	ND(1.1)	ND(1.2)	S
		ND(1.1)	ND(1.2)	

T-B	2014/5/26	ND(1.1)	ND(1.2)	S
		ND(1.1)	ND(1.2)	

M-J1	2014/1/13	0.0027	0.0076	0.00079	1m
		0.0026	0.0082		40m

T-C	2014/5/26	ND(1.1)	ND(1.2)	In progress	S
		ND(1.1)	ND(1.2)		B
	2014/3/12	ND(1.2)	ND(1.3)	ND(0.009)	S

M-K1	2014/1/12	0.00077	0.0039	S
		0.0015	0.0040	

T-D	2014/5/20	ND(1.1)	ND(1.2)	S
		ND(1.1)	ND(1.2)	

M-M1	2014/1/11	ND(0.00092)	0.0029	S
		ND(0.00073)	0.0038	

M-I0	2014/1/13	0.0043	0.014	S
		0.0054	0.013	

M-I1	2014/1/15	0.0043	0.011	S	
		0.0050	0.013		B
		0.0060	0.015		

M-I3	2014/1/15	0.00099	0.0040	S	
		0.0013	0.0040		B
		0.0012	0.0043		

M-IB2	2014/1/12	0.00092	0.0029	0.0011	1m
		0.0047	0.012		104m

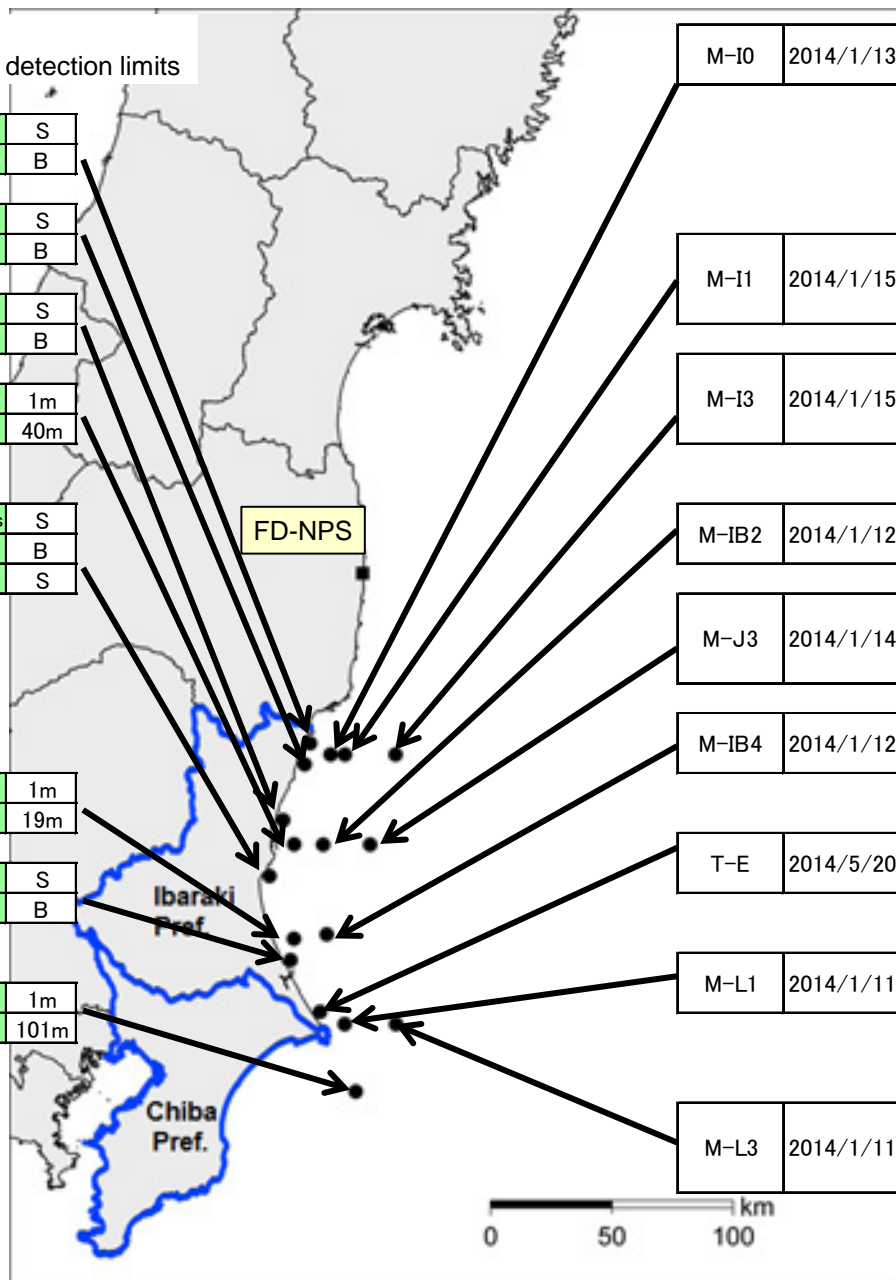
M-J3	2014/1/14	ND(0.00069)	0.0023	S	
		ND(0.00068)	0.0025		B
		ND(0.00061)	0.0011		

M-IB4	2014/1/12	ND(0.00089)	0.0031	S
		0.00099	0.0029	

T-E	2014/5/20	ND(1.1)	ND(1.2)	S
		ND(1.1)	ND(1.2)	

M-L1	2014/1/11	ND(0.00089)	0.0024	S
		0.0012	0.0030	

M-L3	2014/1/11	ND(0.00083)	0.0023	S	
		ND(0.00091)	0.0029		B
		0.00088	0.0027		





# 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	2013/10/19	ND(0.00080)	0.0026	1m
		ND(0.00079)	0.0029	100m
		ND(0.00056)	0.0018	200m
		ND(0.00064)	0.0012	300m
		ND(0.00071)	0.00080	500m

M-14	2013/10/28	ND(0.00078)	0.0025	1m
		ND(0.00069)	0.0018	100m
		ND(0.00058)	0.0016	200m
		ND(0.00058)	0.0016	300m
		ND(0.00065)	0.00091	500m

M-19	2013/10/30	ND(0.00082)	0.0018	1m
		ND(0.00069)	0.0025	100m
		ND(0.00058)	0.0021	200m
		ND(0.00069)	0.0015	300m
		ND(0.00066)	0.00093	500m

M-20	2013/10/30	ND(0.00060)	0.0017	1m
		ND(0.00071)	0.0022	100m
		0.0014	0.0050	200m
		ND(0.00089)	0.0038	300m
		ND(0.00060)	0.0014	500m

M-25	2013/10/31	ND(0.00080)	0.0014	1m
		ND(0.00065)	0.0019	100m
		0.00084	0.0034	200m
		0.0025	0.0068	300m
		ND(0.00057)	0.0022	500m

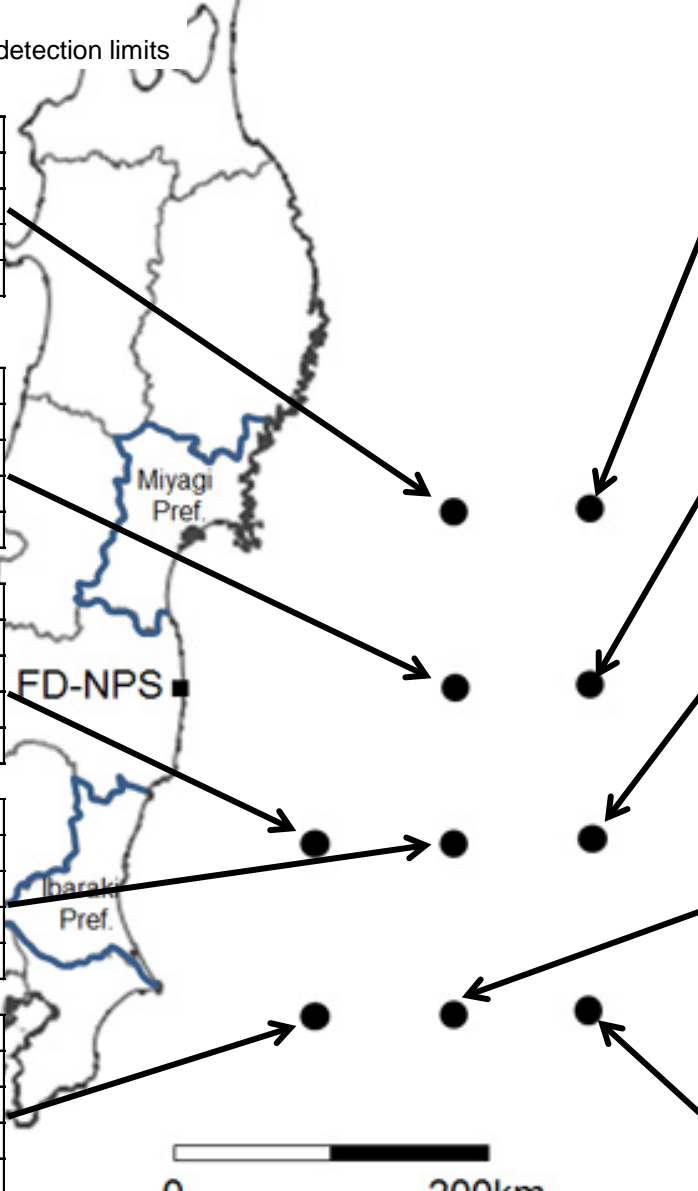
M-11	2013/10/19	ND(0.00064)	0.0022	1m
		0.0020	0.0061	100m
		0.00071	0.0029	200m
		ND(0.00077)	0.0025	300m
		ND(0.00054)	0.0013	500m

M-15	2013/10/29	ND(0.00069)	0.0019	1m
		0.00091	0.0018	100m
		ND(0.00070)	0.0019	200m
		ND(0.00050)	0.0018	300m
		ND(0.00057)	0.00065	500m

M-21	2013/10/29	ND(0.00083)	0.0017	1m
		ND(0.00060)	0.0015	100m
		0.00097	0.0039	200m
		0.00078	0.0028	300m
		ND(0.00072)	0.0011	500m

M-26	2013/10/31	ND(0.00085)	0.0024	1m
		ND(0.00068)	0.0026	100m
		0.0012	0.0038	200m
		0.0022	0.0061	300m
		ND(0.00081)	0.0034	500m

M-27	2013/11/1	ND(0.00068)	0.0021	1m
		ND(0.00060)	0.0016	100m
		0.00083	0.0029	200m
		0.0015	0.0047	300m
		0.0011	0.0038	500m



0 200km