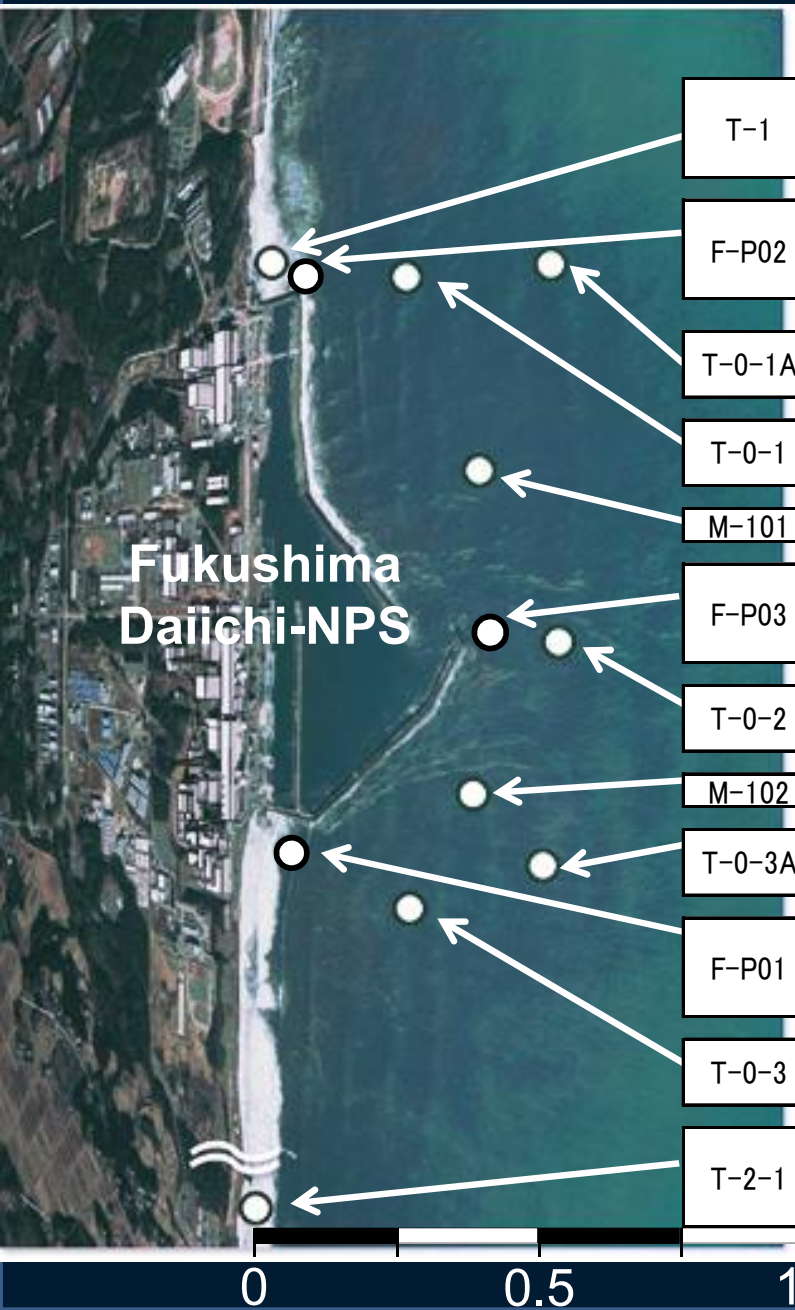


# Sea Area Monitoring

May 12, 2015

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	2015/4/20	ND(0.65)	ND(0.51)	11 <sup>*1</sup>	2.1				
	2015/3/3	ND(0.55)	ND(0.54)	11 <sup>*1</sup>	1.7	0.24	ND(2.0)		
	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	2015/4/20	ND(0.52)	ND(0.69)	ND(17) <sup>*1</sup>	In progress				
	2015/4/16	ND(0.73)	ND(0.73)	ND(15) <sup>*1</sup>	ND(1.5)				
T-0-1	2015/4/20	ND(0.62)	ND(0.63)	ND(17) <sup>*1</sup>	In progress				
	2015/4/16	ND(0.71)	ND(0.63)	ND(15) <sup>*1</sup>	ND(1.5)				
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	2015/4/20	ND(0.61)	ND(0.76)	ND(17) <sup>*1</sup>	In progress				
	2015/4/16	ND(0.60)	ND(0.64)	17 <sup>*1</sup>	ND(1.5)				
M-102	2015/1/9	0.033	0.11		0.52	0.11			
T-0-3A	2015/4/20	ND(0.61)	ND(0.56)	ND(17) <sup>*1</sup>	In progress				
	2015/4/16	ND(0.60)	ND(0.73)	ND(15) <sup>*1</sup>	ND(1.5)				
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	2015/4/20	ND(0.54)	ND(0.62)	ND(17) <sup>*1</sup>	In progress				
	2015/4/16	ND(0.79)	ND(0.72)	ND(15) <sup>*1</sup>	ND(1.5)				
T-2-1	2015/4/20	ND(0.78)	ND(0.67)	13 <sup>*1</sup>	ND(1.6)				
	2015/3/3	ND(0.70)	2.4	8.3 <sup>*1</sup>	ND(1.6)	0.012	ND(2.0)		
	2014/10/21	ND(0.81)	1.1	11 <sup>*1</sup>				ND( $5.3 \times 10^{-6}$ )	( $1.2 \pm 0.25$ ) $\times 10^{-5}$

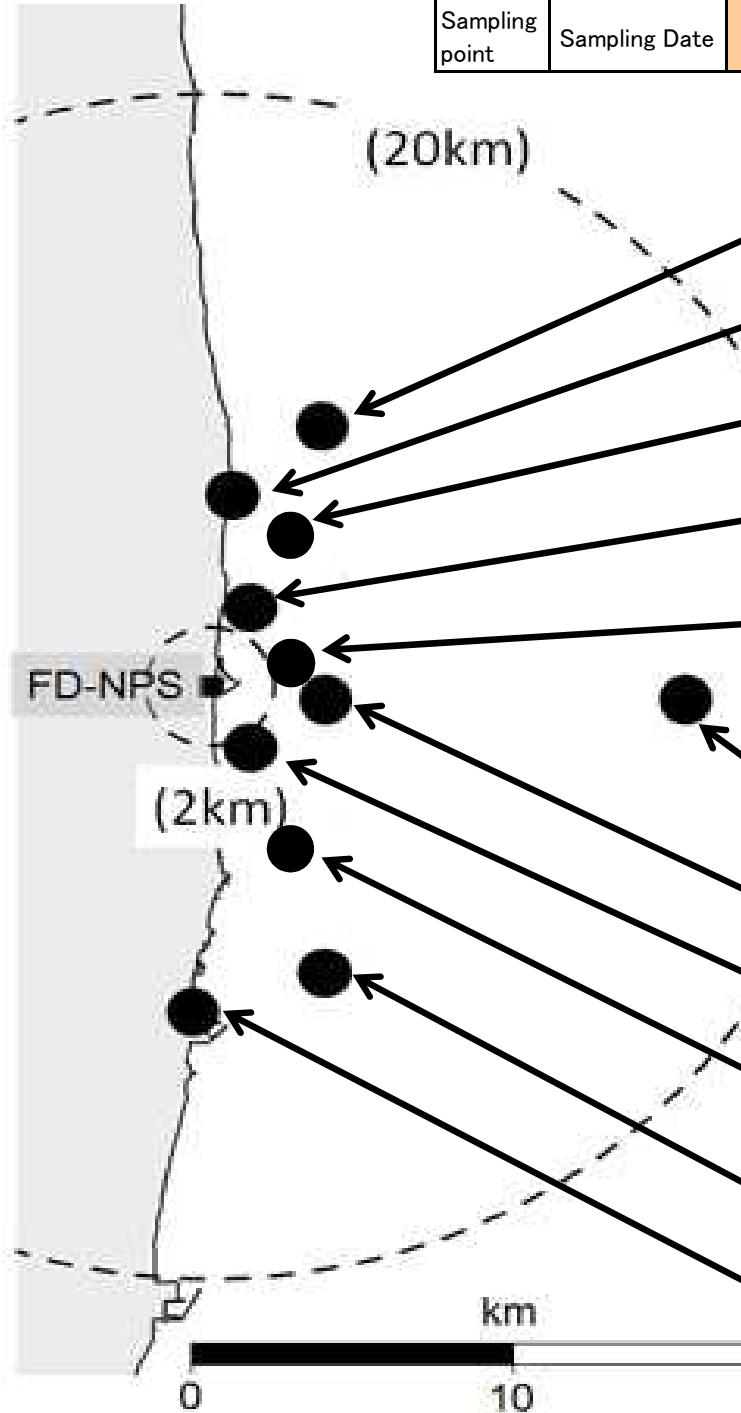
# Sea area between 2-20km radius from the NPS (1)

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

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	2015/3/3	0.0078	0.025	ND(17) <sup>*1</sup>	ND(0.34)	ND(0.0070)	ND(1.6)			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	2015/3/17	0.015	0.065	ND(16) <sup>*1</sup>	ND(0.32)					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	2015/3/3	ND(0.0013)	0.0030	ND(17) <sup>*1</sup>	0.43	ND(0.0071)	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	2015/3/3	0.0021	0.0094	ND(17) <sup>*1</sup>	0.34	ND(0.0092)	ND(1.6)			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	2015/3/3	0.0046	0.015	ND(17) <sup>*1</sup>	ND(0.34)	ND(0.0088)	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	2015/3/17	0.010	0.035	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

T-S1	2015/3/19	0.0024	0.0098	S
		0.0084	0.033	B

T-14	2015/3/23	0.0014	0.0073	S
		0.0024	0.0087	B
	2015/3/16	0.0044	0.013	S
		0.0024	0.011	B
	2015/3/13	0.0018	0.0065	S
		0.0026	0.011	B

*T-S2	2015/3/19	ND(0.0014)	0.0075	S
		0.0052	0.020	B

T-D1	2015/3/23	0.0018	0.0058	S
		0.0025	0.010	B
	2015/3/16	0.0093	0.035	S
		0.0030	0.010	B
	2015/3/13	0.0045	0.019	S
		0.0035	0.011	B

T-6	2015/3/17	0.015	0.065	S
-----	-----------	-------	-------	---

T-S8	2015/3/14	0.0050	0.018	S
		0.0056	0.018	B

T-3	2015/3/17	0.010	0.035	S
-----	-----------	-------	-------	---

T-S7	2015/3/12	0.010	0.043	S
		0.0038	0.016	B

T-S5	2015/3/12	0.0027	0.016	S
		0.0055	0.024	B

T-S3	2015/3/19	0.0020	0.0094	S
		0.0019	0.0099	B

T-S4	2015/3/19	0.0026	0.010	S
		0.0016	0.0071	B

T-D5	2015/3/23	0.0055	0.019	S
		0.0035	0.012	B
	2015/3/16	0.0057	0.021	S
		ND(0.0018)	0.0077	B
2015/3/13	0.0028	0.010	S	
	0.0024	0.0089	B	

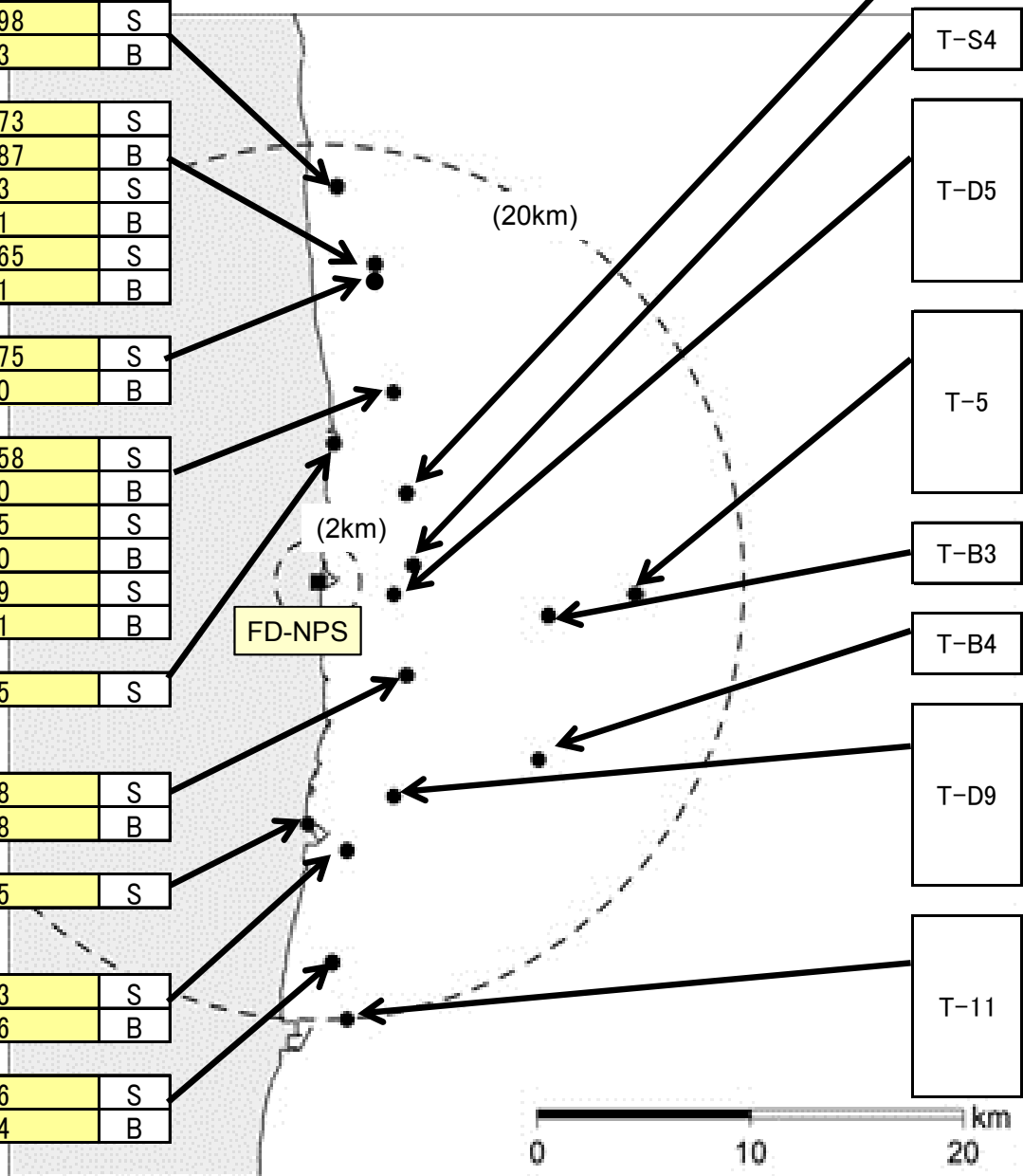
T-5	2015/3/23	0.0014	0.0063	S
		0.0015	0.0061	B
	2015/3/16	0.0016	0.0081	S
		ND(0.0011)	0.0044	B
	2015/3/13	0.0028	0.010	S
		0.0014	0.0062	B

T-B3	2015/3/22	ND(0.0013)	0.0044	S
		ND(0.0012)	0.0059	B

T-B4	2015/3/22	0.0016	0.010	S
		ND(0.0014)	0.0049	B

T-D9	2015/3/23	0.0045	0.014	S
		0.0028	0.010	B
	2015/3/16	0.0046	0.014	S
		0.0019	0.0084	B
	2015/3/13	0.0032	0.015	S
		0.0052	0.020	B

T-11	2015/3/23	0.0032	0.014	S
		0.0040	0.016	B
	2015/3/16	0.0055	0.017	S
		0.0042	0.018	B
	2015/3/13	0.0029	0.012	S
		0.0061	0.024	B



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

# 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	2015/3/12	0.0019 ND(0.0015)	0.0070 0.0059		S B
------	-----------	----------------------	------------------	--	--------

T-13-1	2015/3/12	0.0043 0.0043	0.022 0.020		S B
--------	-----------	------------------	----------------	--	--------

T-7	2015/3/27	0.0015 ND(0.0012)	0.0050 0.0030		S B
-----	-----------	----------------------	------------------	--	--------

T-4	2015/3/17	0.012	0.037		S
-----	-----------	-------	-------	--	---

T-12	2015/3/17	0.0044 0.0021	0.014 0.0099		S B
------	-----------	------------------	-----------------	--	--------

T-17-1	2015/3/17	0.0023 0.0020	0.010 0.011		S B
--------	-----------	------------------	----------------	--	--------

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

T-B1	2015/3/18	0.0036 0.0015	0.011 0.0063		S B
------	-----------	------------------	-----------------	--	--------

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

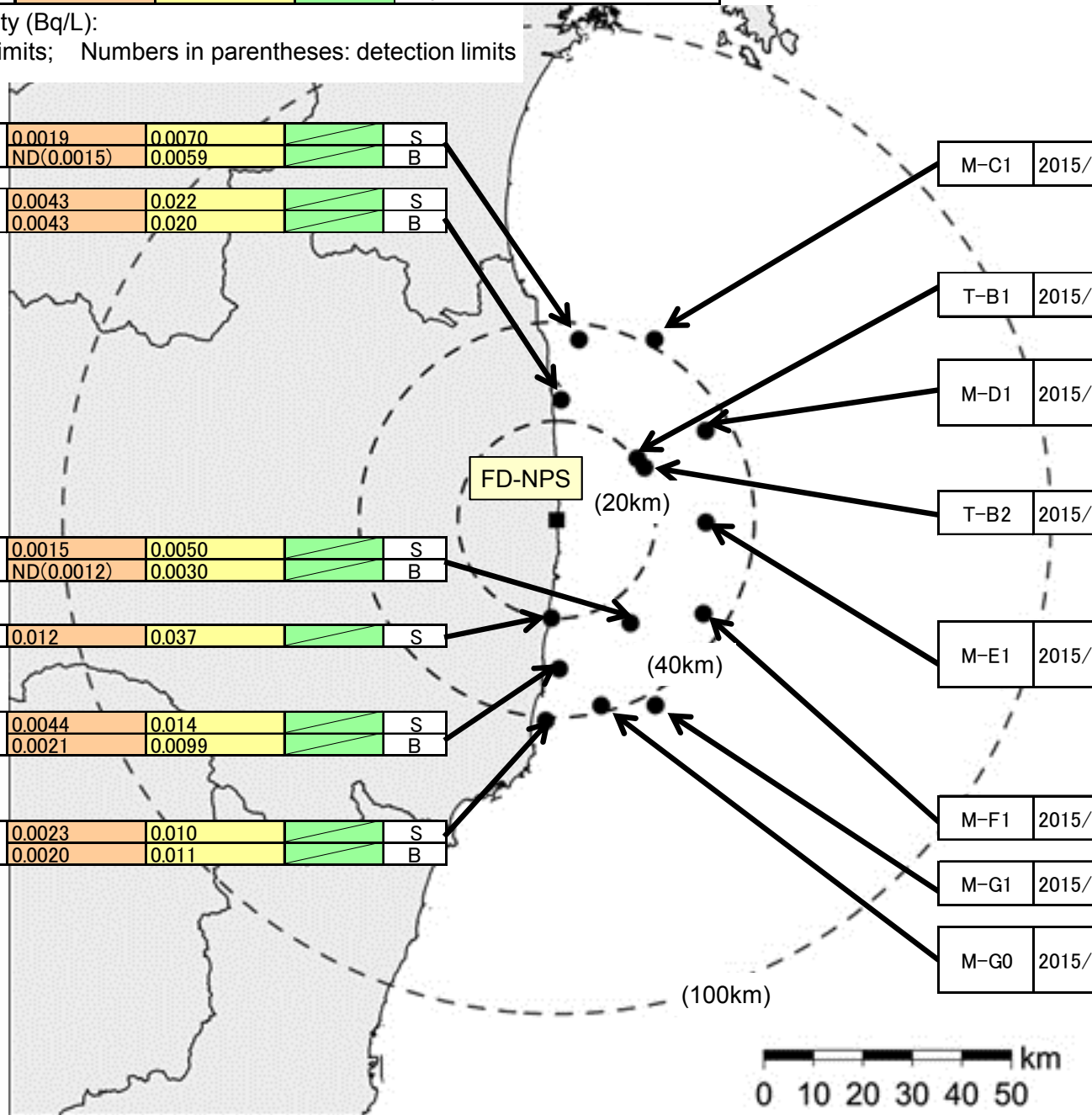
T-B2	2015/3/18	0.0020 ND(0.0014)	0.010 0.0069		S B
------	-----------	----------------------	-----------------	--	--------

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

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

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

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



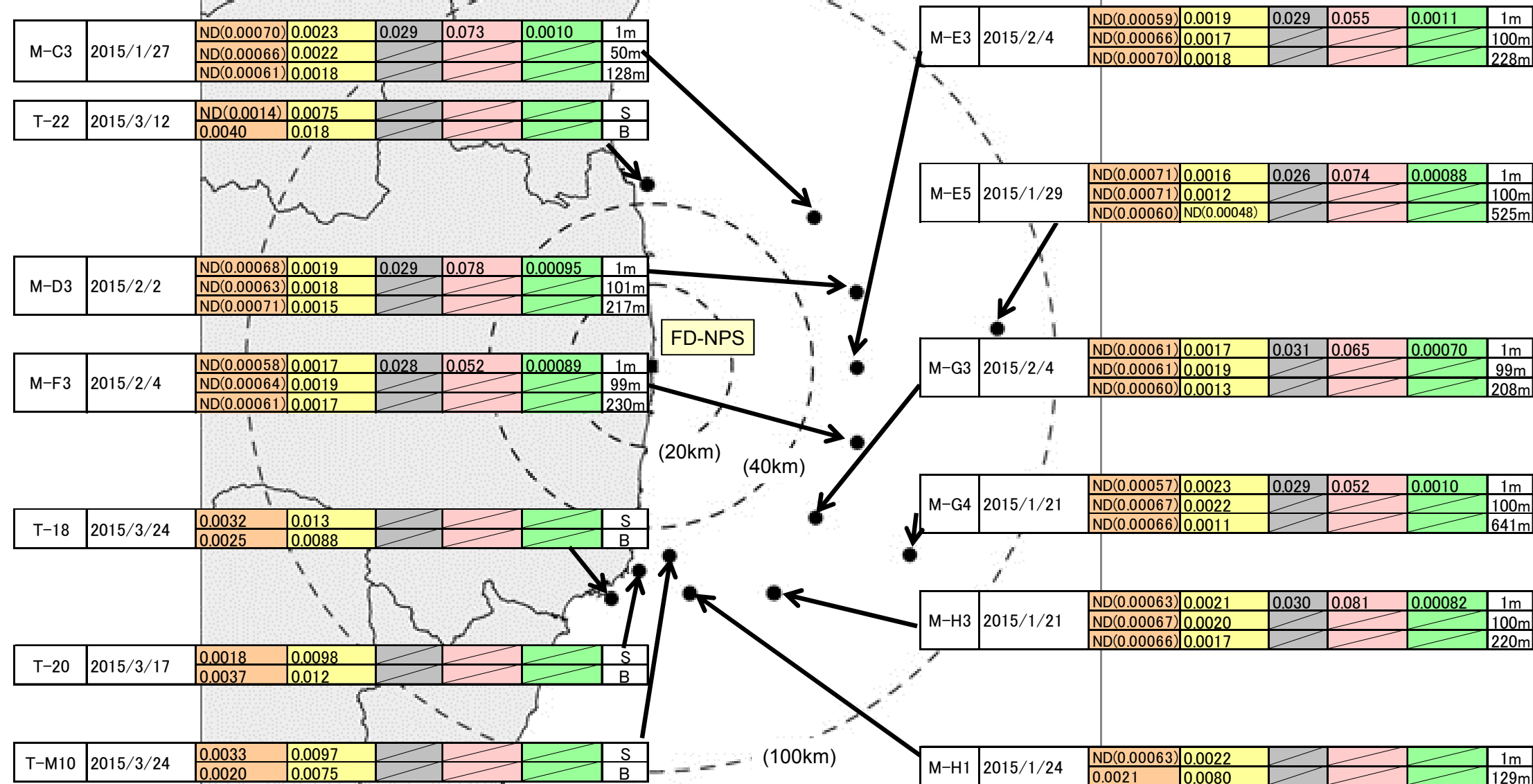
# Sea area between 20-100km radius from the NPS(2)

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

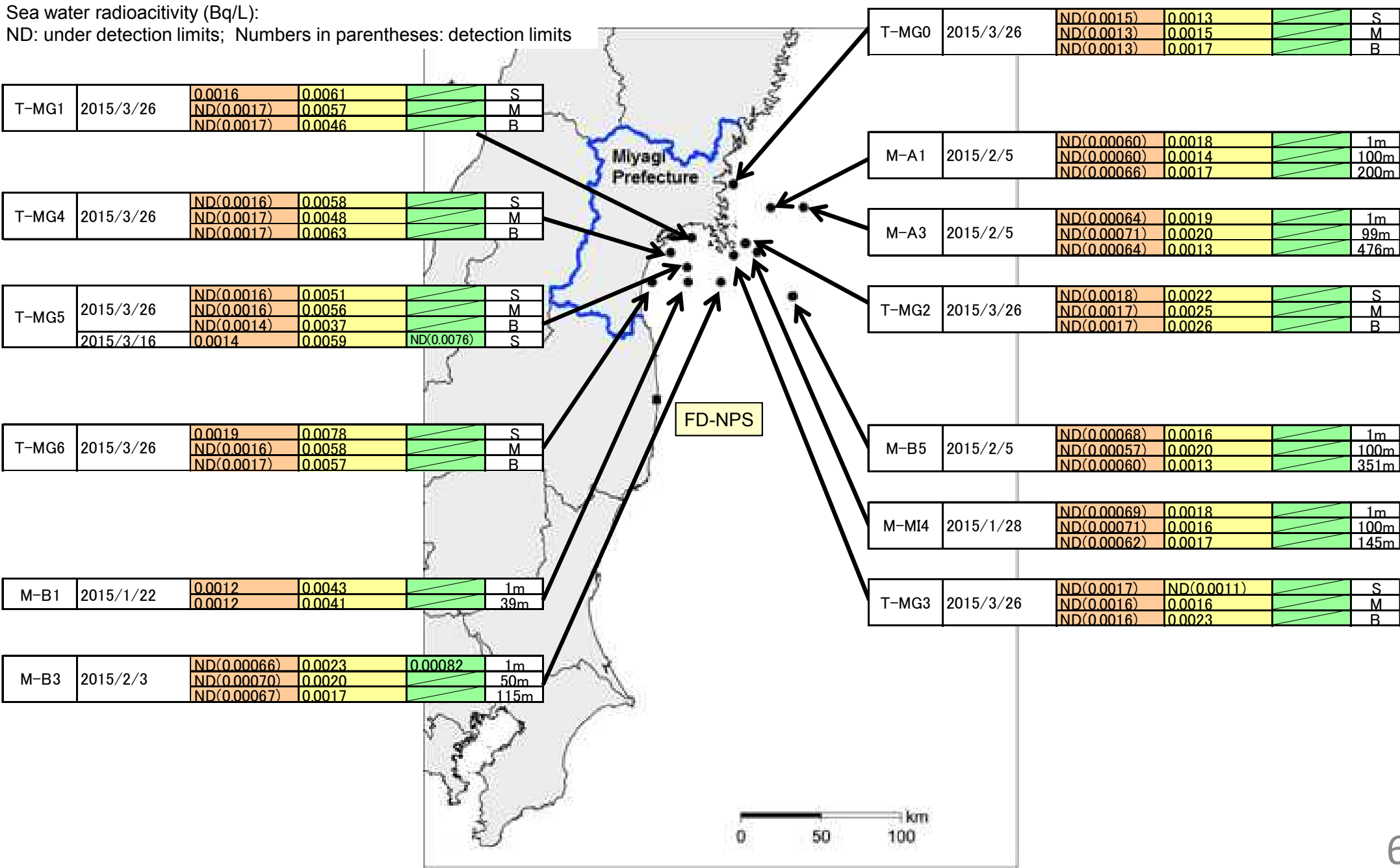


# Sea area along and off the coast of Miyagi Prefecture

Sampling point	Sampling Date	Cs-134	Cs-137	Sr-90	S/M/B
----------------	---------------	--------	--------	-------	-------

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

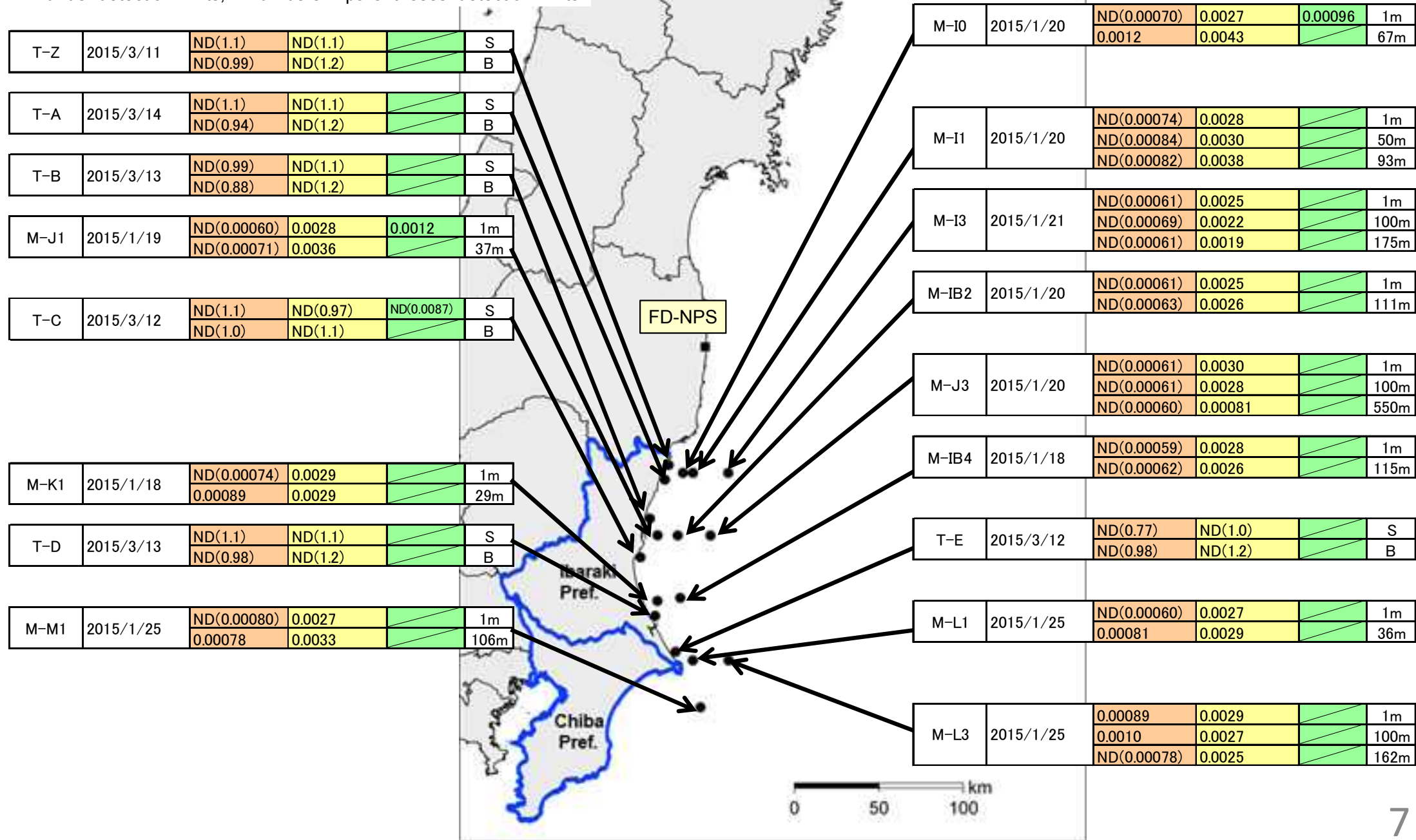


# Sea area along and off the coast of Ibaraki Pref. and Chiba Pref.

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	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

