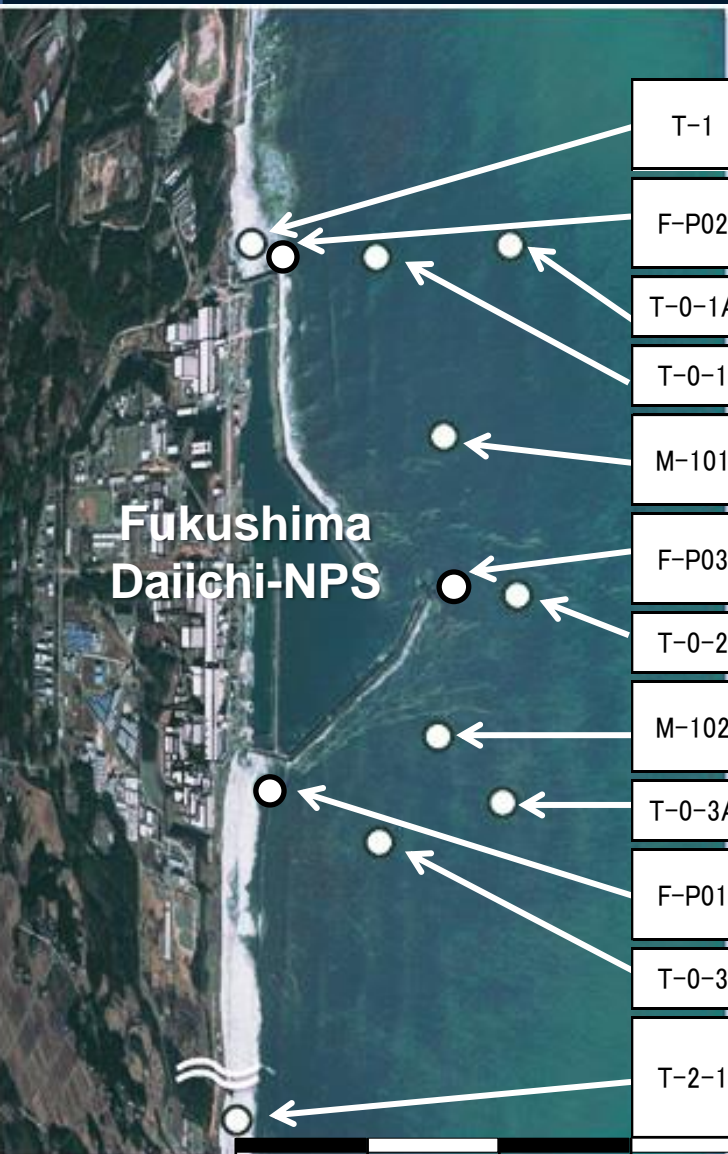


# Sea Area Monitoring

October 27, 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
T-1	2015/10/14	ND(0.69)	ND(0.65)	13 <sup>*1</sup>	ND(1.7)				
	2015/8/3	ND(0.65)	ND(0.53)	11 <sup>*1</sup>	ND(1.6)	0.69	ND(1.6)		
	2015/4/8	ND(0.55)	ND(0.64)					ND( $5.5 \times 10^{-6}$ )	ND( $6.1 \times 10^{-6}$ )
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
T-0-1A	2015/10/12	ND(0.68)	ND(0.71)	ND(17) <sup>*1</sup>	In progress				
	2015/10/5	ND(0.76)	ND(0.71)	ND(17) <sup>*1</sup>	ND(1.8)				
T-0-1	2015/10/12	ND(0.55)	ND(0.68)	ND(17) <sup>*1</sup>	In progress				
	2015/10/5	ND(0.71)	ND(0.53)	ND(17) <sup>*1</sup>	ND(1.8)				
M-101	2015/8/5	0.0074	0.030		0.13	In progress			
	2015/7/8	0.0058	0.024		0.12	In progress			
	2015/6/10	0.030	0.12		0.53	0.15			
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( $6 \times 10^{-6}$ )	ND( $8 \times 10^{-6}$ )
T-0-2	2015/10/12	ND(0.70)	ND(0.64)	ND(17) <sup>*1</sup>	In progress				
	2015/10/5	ND(0.51)	ND(0.64)	ND(17) <sup>*1</sup>	ND(1.8)				
M-102	2015/8/6	0.0072	0.032		0.14	In progress			
	2015/7/9	0.015	0.060		0.16	In progress			
	2015/6/11	0.0030	0.013		0.11	0.0020			
T-0-3A	2015/10/12	ND(0.80)	ND(0.71)	ND(17) <sup>*1</sup>	In progress				
	2015/10/5	ND(0.68)	ND(0.54)	ND(17) <sup>*1</sup>	ND(1.8)				
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( $6 \times 10^{-6}$ )	ND( $6 \times 10^{-6}$ )
T-0-3	2015/10/12	ND(0.75)	ND(0.61)	ND(17) <sup>*1</sup>	In progress				
	2015/10/5	ND(0.66)	ND(0.67)	ND(17) <sup>*1</sup>	ND(1.8)				
T-2-1	2015/10/14	ND(0.88)	ND(0.78)	11 <sup>*1</sup>	ND(1.7)				
	2015/10/5	ND(0.86)	1.1	11 <sup>*1</sup>	ND(1.8)				
	2015/8/3	ND(0.62)	ND(0.63)	14 <sup>*1</sup>	ND(1.6)	0.040	ND(1.6)		
	2015/4/8	ND(0.66)	ND(0.60)	8.9 <sup>*1</sup>				ND( $6.9 \times 10^{-6}$ )	( $9.7 \pm 2.4$ ) $\times 10^{-6}$

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

0      0.5      1km

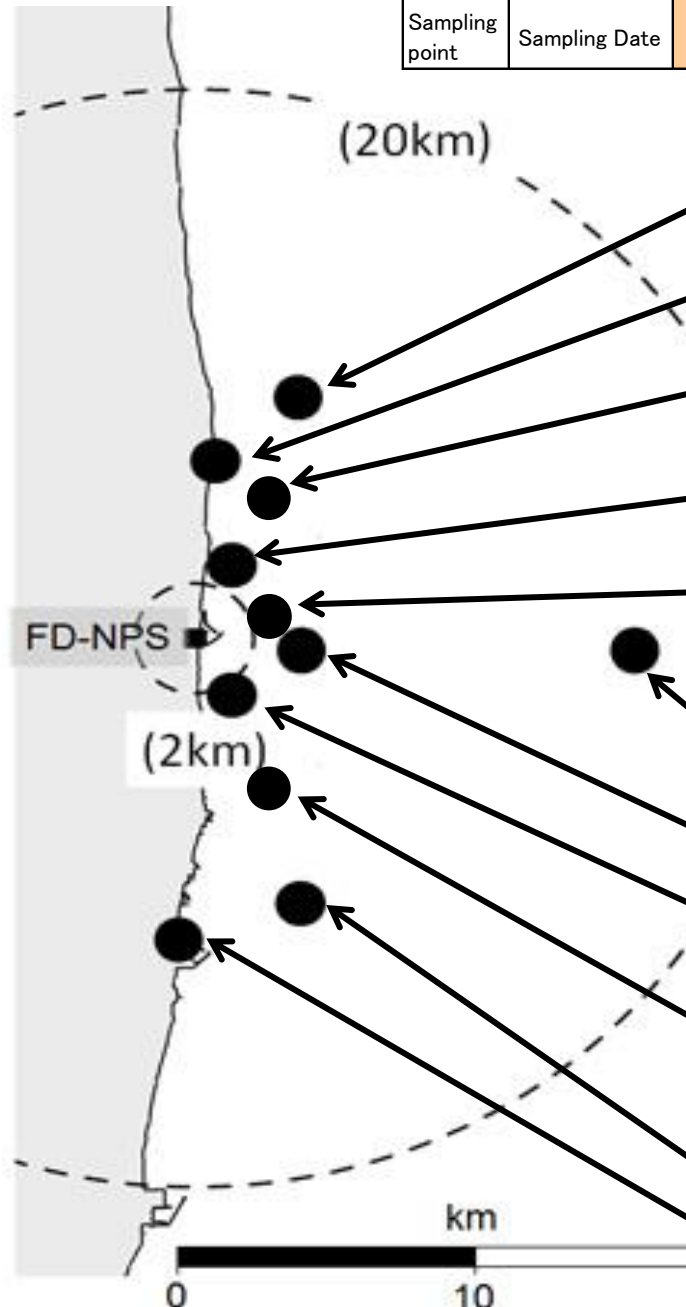
# Sea area between 2-20km radius from the NPS (1)

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	2015/9/14	0.0085	0.037	ND(17) <sup>*1</sup>	ND(0.36)						S
	2015/9/1	0.0029	0.013	ND(17) <sup>*1</sup>	ND(0.38)	ND(0.0069)	ND(1.9)				S
	2015/4/8	0.0017	0.0048	ND(15) <sup>*1</sup>	0.49	ND(0.0099)	ND(2.0)	ND( $7.0 \times 10^{-6}$ )	ND( $6.8 \times 10^{-6}$ )		S
T-6	2015/9/15	0.021	0.074	ND(13) <sup>*1</sup>	ND(0.34)						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( $6 \times 10^{-6}$ )	$6 \times 10^{-6}$		S
M-103	2015/8/5	0.0038	0.018		0.082	In progress					0.5m
	2015/7/8	0.0060	0.024		0.14	In progress					0.5m
	2015/6/10	0.0050	0.020		0.13	0.018					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( $7 \times 10^{-6}$ )	ND( $8 \times 10^{-6}$ )		S
T-5	2015/9/14	0.0030	0.013	ND(17) <sup>*1</sup>	ND(0.36)						S
	2015/9/1	ND(0.0017)	0.0019	ND(17) <sup>*1</sup>	ND(0.38)	ND(0.0077)	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( $5.7 \times 10^{-6}$ )	ND( $5.6 \times 10^{-6}$ )		S
T-D5	2015/9/14	0.015	0.056	ND(17) <sup>*1</sup>	ND(0.36)						S
	2015/9/1	0.0040	0.016	ND(17) <sup>*1</sup>	ND(0.38)	ND(0.0070)	ND(1.9)				S
	2015/4/8	ND(0.0016)	0.0062	ND(15) <sup>*1</sup>	0.70	ND(0.011)	ND(2.0)	ND( $6.3 \times 10^{-6}$ )	ND( $6.0 \times 10^{-6}$ )		S
M-104	2015/8/6	0.0072	0.031		0.12	In progress					0.5m
	2015/7/9	0.012	0.050		0.17	In progress					0.5m
	2015/6/11	0.0044	0.017		0.12	0.0014					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( $6 \times 10^{-6}$ )	$8 \times 10^{-6}$		S
T-D9	2015/9/14	0.016	0.059	ND(17) <sup>*1</sup>	ND(0.36)						S
	2015/9/1	0.0047	0.022	ND(17) <sup>*1</sup>	ND(0.38)	ND(0.0070)	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( $6.7 \times 10^{-6}$ )	ND( $6.5 \times 10^{-6}$ )		S
T-3	2015/9/15	0.026	0.094	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	2015/9/16	0.0057	0.023	S
		0.0042	0.018	B

T-14	2015/9/14	0.0064	0.026	S
		0.0046	0.023	B

T-D1	2015/9/14	0.0085	0.037	S
		0.016	0.071	B

T-6	2015/9/22	0.013	0.058	S
	2015/9/15	0.021	0.074	S

T-S8	2015/9/13	0.033	0.14	S
		0.0046	0.018	B

T-3	2015/9/24	0.016	0.061	S
	2015/9/15	0.026	0.094	S

T-S7	2015/9/2	0.035	0.14	S
		ND(0.0014)	0.0069	B

T-S5	2015/9/2	0.0043	0.018	S
		0.0027	0.011	B

T-S3	2015/9/17	0.015	0.059	S
		0.0014	0.0060	B

T-S4	2015/9/17	0.013	0.054	S
		0.0026	0.011	B

T-D5	2015/9/14	0.015	0.056	S
		0.0064	0.020	B

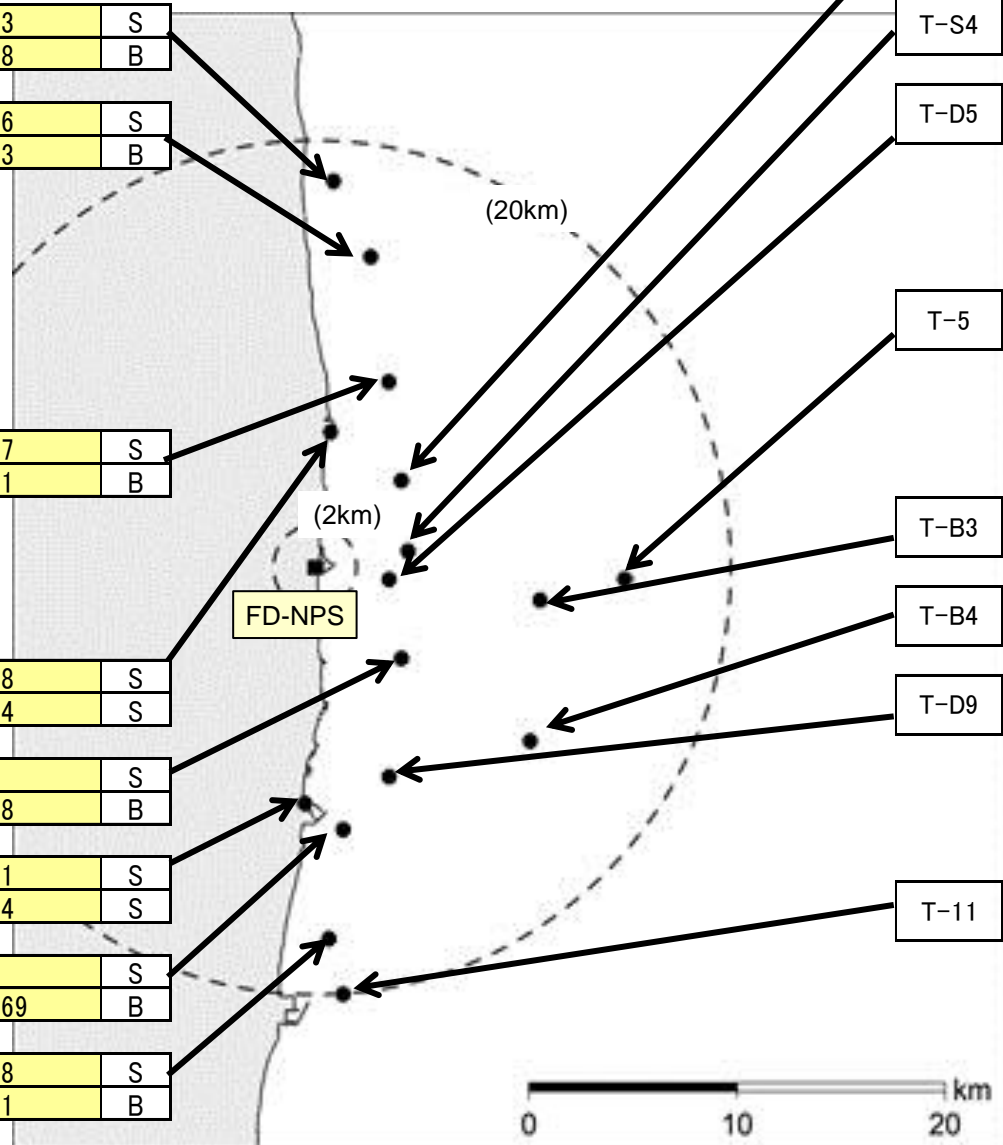
T-5	2015/9/14	0.0030	0.013	S
		ND(0.0015)	0.0042	B

T-B3	2015/9/4	ND(0.0011)	0.0031	S
		ND(0.0012)	0.0030	B

T-B4	2015/9/4	ND(0.0012)	0.0022	S
		ND(0.0013)	0.0033	B

T-D9	2015/9/14	0.016	0.059	S
		0.014	0.063	B

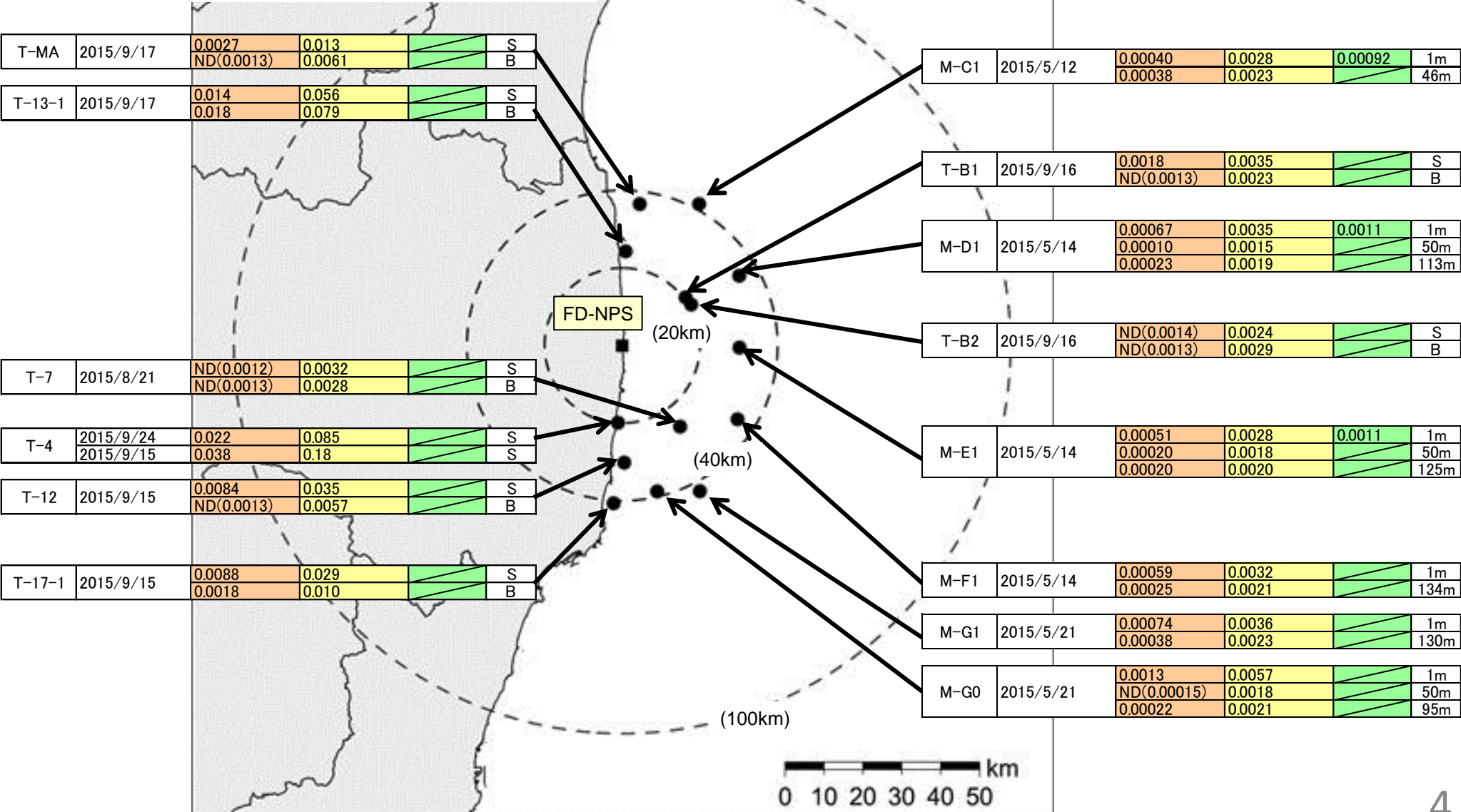
T-11	2015/9/14	0.012	0.050	S
		0.012	0.053	B



# 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		

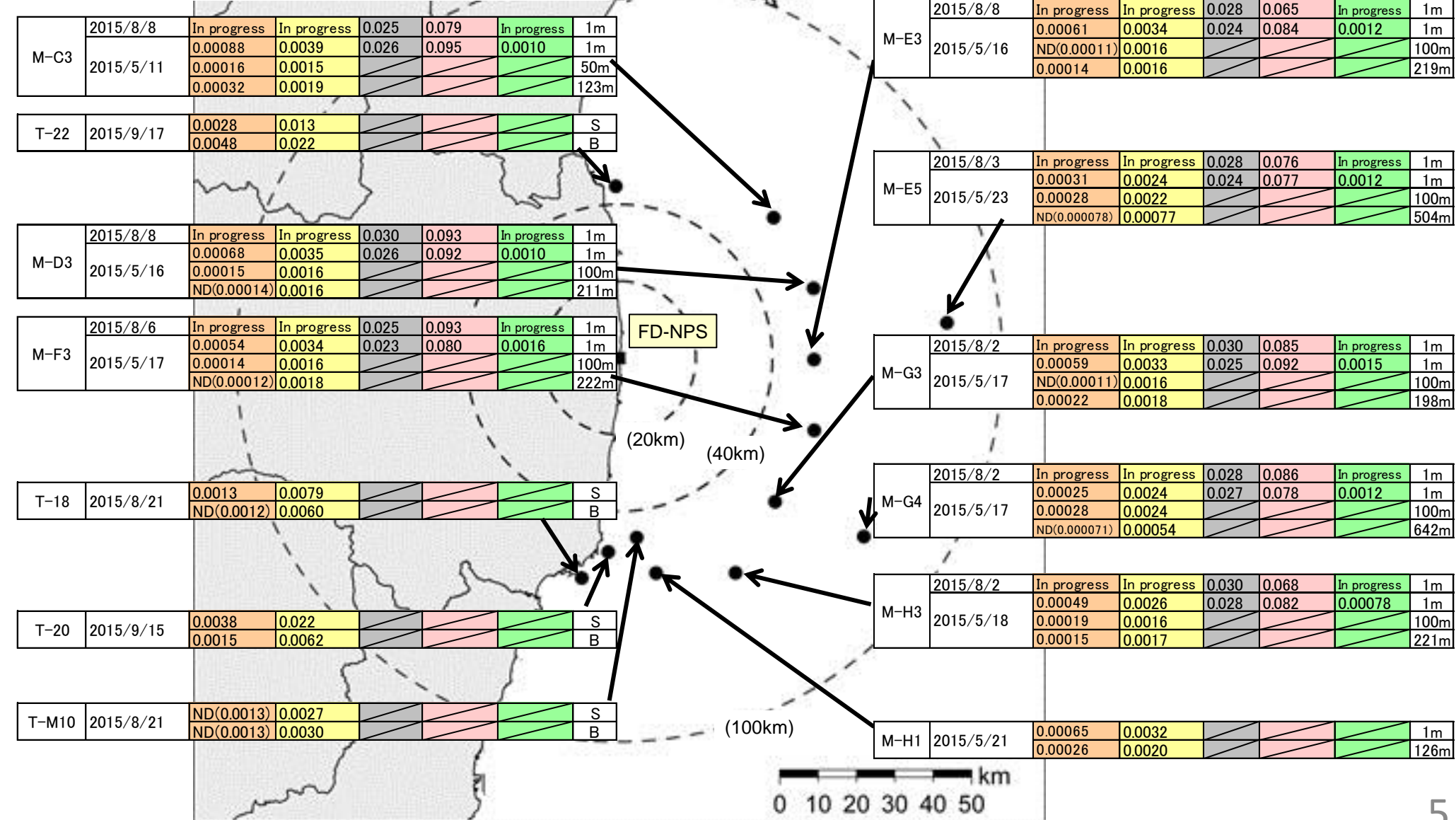
Sea water radioactivity (Bq/L):  
 ND: under detection limits; Numbers in parentheses: detection limits



# 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

T-MG1	2015/9/1	ND(0.0018)	0.0047		S
		ND(0.0015)	0.0033		M
		ND(0.0016)	0.0026		B

T-MG4	2015/9/2	ND(0.0014)	0.0051		S
		ND(0.0013)	0.0032		M
		ND(0.0015)	0.0033		B

T-MG5	2015/9/2	ND(0.0014)	0.0052	In progress	S
		ND(0.0014)	0.0036		M
	2015/7/6	0.0015	0.0058		B
		ND(0.0018)	0.0060	ND(0.0069)	S

T-MG6	2015/9/2	0.0023	0.012		S
		ND(0.0013)	0.0026		M
		ND(0.0014)	0.0063		B

M-B1	2015/5/12	0.00075	0.0035		1m
		0.00086	0.0041		37m

M-B3	2015/5/11	0.00031	0.0022	0.00096	1m
		ND(0.000094)	0.0013		50m
		0.00019	0.0017		109m

T-MG0	2015/9/1	ND(0.0014)	0.0017		S
		ND(0.0015)	0.0025		M
		ND(0.0014)	0.0018		B

M-A1	2015/5/9	0.00016	0.0015		1m
		ND(0.00012)	0.0016		100m
		0.00017	0.0016		185m

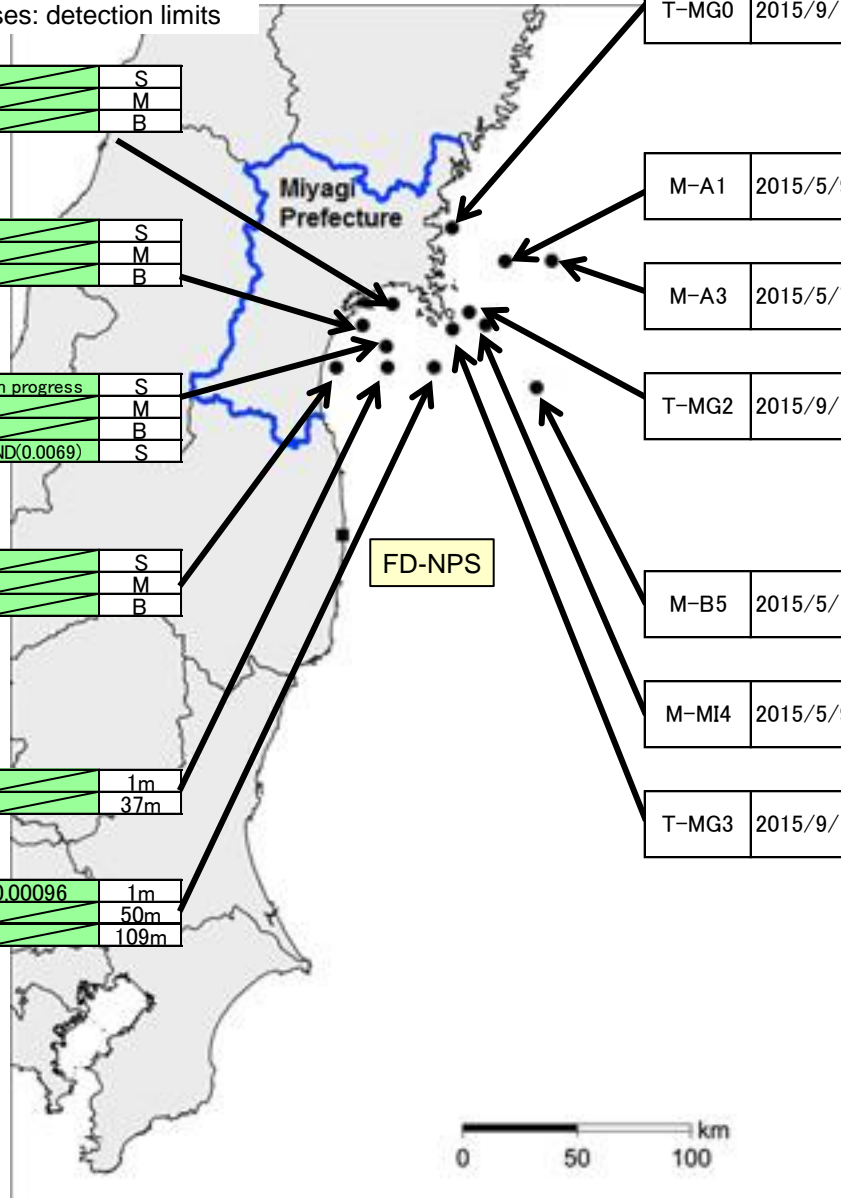
M-A3	2015/5/7	ND(0.000094)	0.0014		1m
		ND(0.00013)	0.0017		100m
		ND(0.00010)	0.00075		486m

T-MG2	2015/9/1	ND(0.0014)	0.0017		S
		ND(0.0014)	0.0023		M
		ND(0.0014)	0.0025		B

M-B5	2015/5/10	0.00024	0.0023		1m
		0.00026	0.0019		100m
		ND(0.00012)	0.0012		351m

M-MI4	2015/5/9	0.00012	0.0015		1m
		0.00011	0.0016		100m
		ND(0.00016)	0.0016		145m

T-MG3	2015/9/1	ND(0.0014)	0.0021		S
		ND(0.0015)	0.0022		M
		ND(0.0013)	0.0021		B

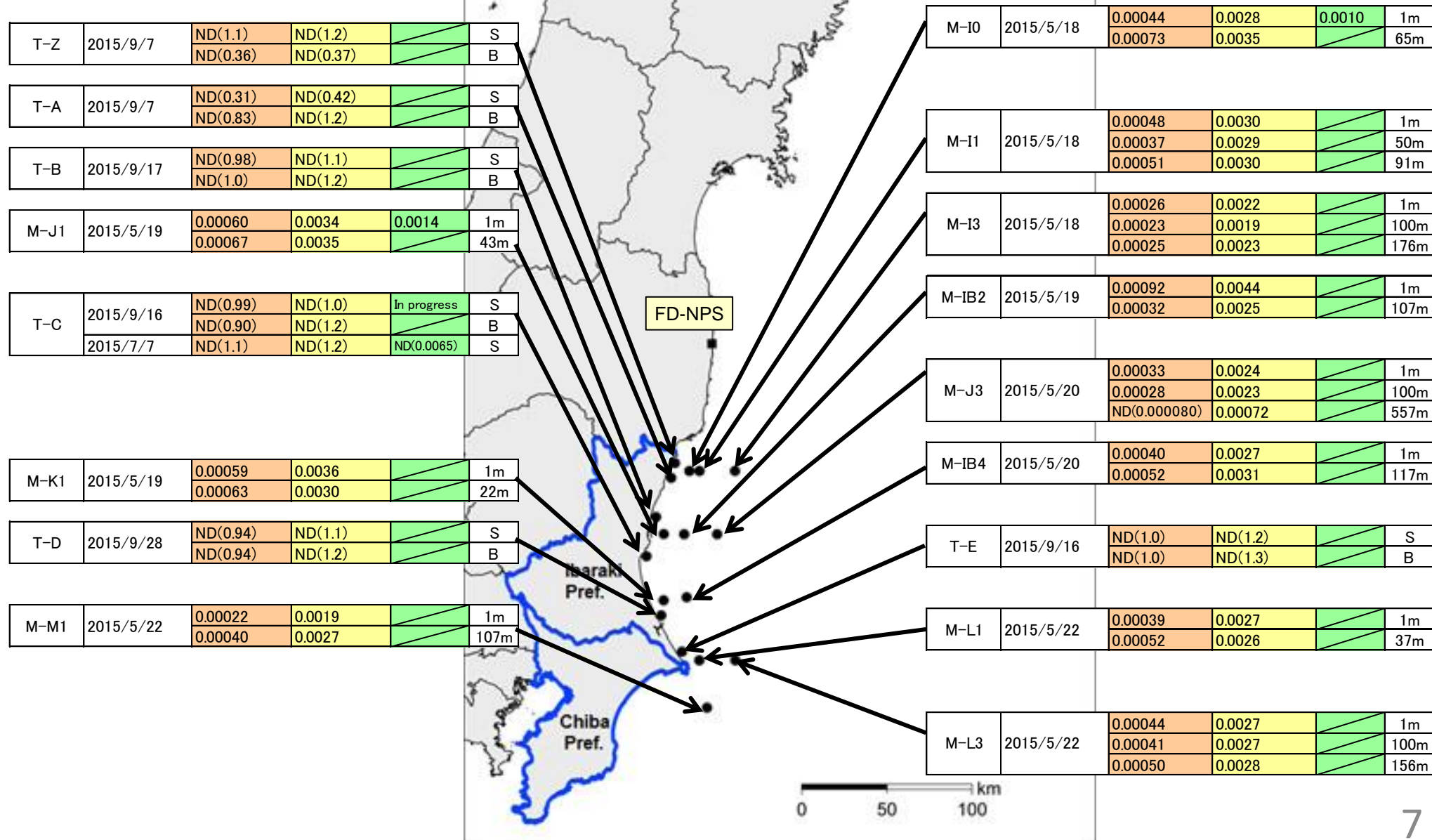


# Sea area along and off the coast of Ibaraki Pref. and Chiba Pref.

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

