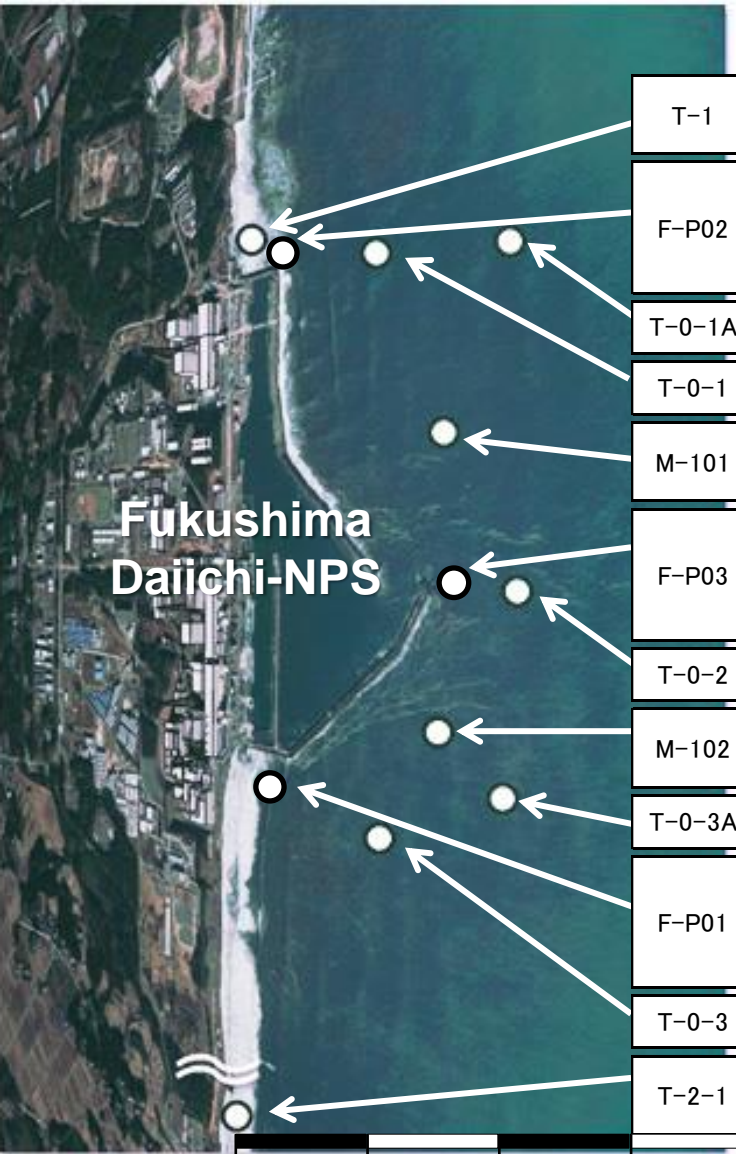


Sea Area Monitoring

October 20, 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 β	H-3	Sr-90	total α	Pu-238	Pu-239+240
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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	2015/10/5	ND(0.87)	ND(0.71)	11 ^{*1}	ND(1.8)				
	2015/8/3	ND(0.65)	ND(0.53)	11 ^{*1}	ND(1.6)	0.69	ND(1.6)		
	2015/4/8	ND(0.55)	ND(0.64)					ND(5.5×10^{-6})	ND(6.1×10^{-6})
F-P02	2015/9/14	0.21	1.0	0.03 ^{*2}	ND(0.41)	In progress		In progress	In progress
	2015/8/17	ND(0.088)	0.12	0.05 ^{*2}	ND(0.44)	0.10		In progress	In progress
	2015/7/21	0.19	0.67	0.31 ^{*2}	1.9	0.76		In progress	In progress
	2015/6/16	ND(0.065)	ND(0.053)	0.04 ^{*2}	ND(0.45)	0.046		In progress	In progress
	2015/3/3	ND(0.072)	0.094	0.06 ^{*2}	ND(0.43)	0.041		ND(7×10^{-6})	1.1×10^{-5}
T-0-1A	2015/10/5	ND(0.76)	ND(0.71)	ND(17) ^{*1}	In progress				
	2015/9/28	ND(0.64)	ND(0.81)	ND(17) ^{*1}	ND(1.9)				
T-0-1	2015/10/5	ND(0.71)	ND(0.53)	ND(17) ^{*1}	In progress				
	2015/9/28	ND(0.68)	ND(0.75)	ND(17) ^{*1}	ND(1.9)				
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 ^{*2}	ND(0.40)	In progress		In progress	In progress
	2015/8/17	0.13	0.48	0.19 ^{*2}	1.1	0.46		In progress	In progress
	2015/7/21	0.22	0.83	0.37 ^{*2}	2.6	0.68		In progress	In progress
	2015/6/16	ND(0.066)	ND(0.050)	0.03 ^{*2}	ND(0.46)	0.008		In progress	In progress
	2015/3/3	0.079	0.23	0.14 ^{*2}	1.4	0.23		ND(6×10^{-6})	ND(8×10^{-6})
T-0-2	2015/10/5	ND(0.51)	ND(0.64)	ND(17) ^{*1}	In progress				
	2015/9/28	ND(0.67)	ND(0.68)	ND(17) ^{*1}	ND(1.9)				
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	2015/10/5	ND(0.68)	ND(0.54)	ND(17) ^{*1}	In progress				
	2015/9/28	ND(0.83)	ND(0.72)	ND(17) ^{*1}	ND(1.9)				
F-P01	2015/9/14	ND(0.053)	0.15	0.05 ^{*2}	0.55	In progress		In progress	In progress
	2015/8/17	ND(0.071)	0.12	0.04 ^{*2}	ND(0.42)	0.037		In progress	In progress
	2015/7/21	ND(0.054)	0.10	0.03 ^{*2}	ND(0.46)	0.014		In progress	In progress
	2015/6/16	ND(0.055)	ND(0.052)	0.03 ^{*2}	ND(0.46)	0.004		In progress	In progress
	2015/3/3	ND(0.068)	0.075	0.04 ^{*2}	ND(0.43)	0.004		ND(6×10^{-6})	ND(6×10^{-6})
T-0-3	2015/10/5	ND(0.66)	ND(0.67)	ND(17) ^{*1}	In progress				
	2015/9/28	ND(0.84)	ND(0.49)	ND(17) ^{*1}	ND(1.9)				
T-2-1	2015/10/5	ND(0.86)	1.1	11 ^{*1}	In progress				
	2015/8/3	ND(0.62)	ND(0.63)	14 ^{*1}	ND(1.6)	0.040	ND(1.6)		
	2015/4/8	ND(0.66)	ND(0.60)	8.9 ^{*1}				ND(6.9×10^{-6})	$(9.7 \pm 2.4) \times 10^{-6}$

0 0.5 1km

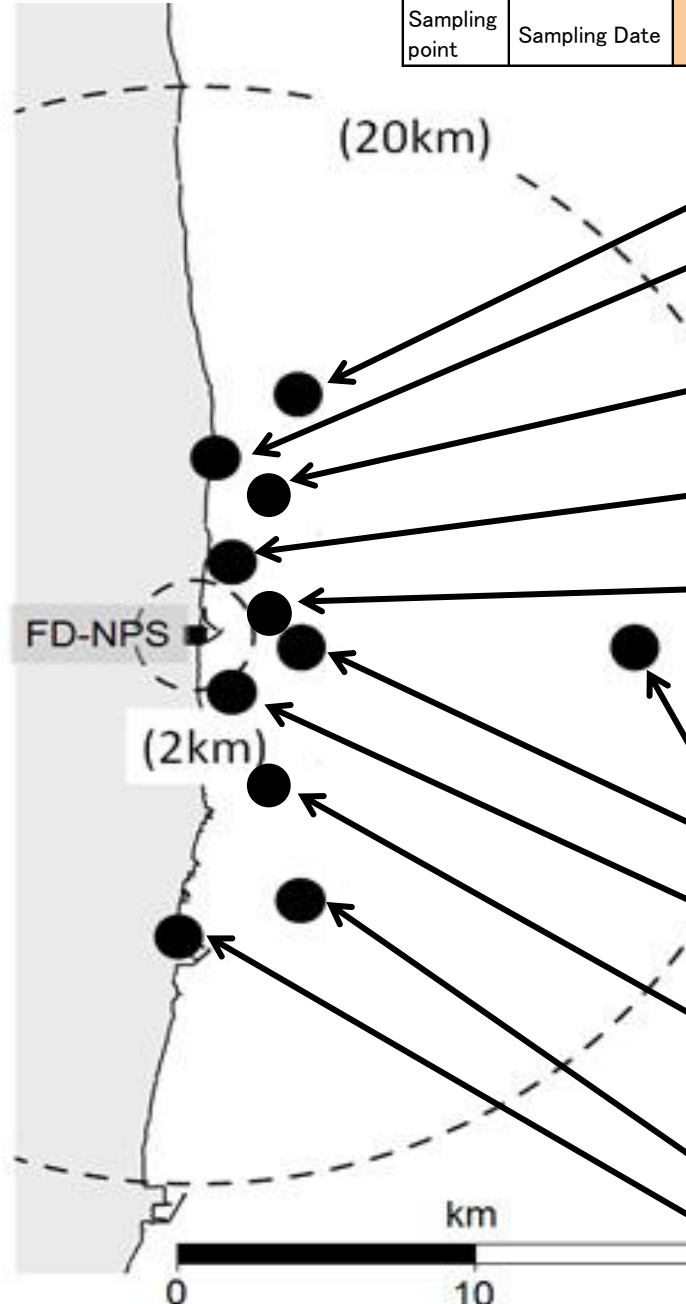
Sea area between 2-20km radius from the NPS (1)

Sampling point	Sampling Date	Cs-134	Cs-137	total β	H-3	Sr-90	total α	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 β: including K-40 *2: Total β: excluding K-40



T-D1	2015/9/1	0.0029	0.013	ND(17)*1	ND(0.38)	ND(0.0069)	ND(1.9)			S
	2015/4/8	0.0017	0.0048	ND(15)*1	0.49	ND(0.0099)	ND(2.0)	ND(7.0 × 10 ⁻⁶)	ND(6.8 × 10 ⁻⁶)	S
T-6	2015/9/2	0.015	0.060	ND(17)*1	ND(0.33)					S
F-P06	2015/9/14	ND(0.050)	0.082	0.02*2	0.47	In progress		In progress	In progress	S
	2015/8/17	ND(0.070)	ND(0.066)	0.02*2	ND(0.41)	0.001		In progress	In progress	S
	2015/7/21	ND(0.056)	ND(0.051)	0.02*2	ND(0.45)	0.002		In progress	In progress	S
	2015/6/16	ND(0.067)	ND(0.069)	0.03*2	ND(0.45)	0.003		In progress	In progress	S
	2015/3/3	ND(0.059)	ND(0.057)	0.03*2	ND(0.43)	0.004		ND(6 × 10 ⁻⁶)	6 × 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*2	ND(0.40)	In progress		In progress	In progress	S
	2015/8/17	ND(0.090)	ND(0.066)	0.02*2	ND(0.42)	0.001		In progress	In progress	S
	2015/7/21	ND(0.058)	0.054	0.02*2	ND(0.45)	0.002		In progress	In progress	S
	2015/6/16	ND(0.062)	ND(0.053)	0.03*2	ND(0.44)	0.002		In progress	In progress	S
	2015/3/3	ND(0.064)	ND(0.052)	0.03*2	0.48	0.002		ND(7 × 10 ⁻⁶)	ND(8 × 10 ⁻⁶)	S
T-5	2015/9/1	ND(0.0017)	0.0019	ND(17)*1	ND(0.38)	ND(0.0077)	ND(1.6)			S
	2015/4/9	ND(0.0014)	0.0021	ND(17)*1	ND(0.32)	ND(0.011)	ND(1.6)	ND(5.7 × 10 ⁻⁶)	ND(5.6 × 10 ⁻⁶)	S
T-D5	2015/9/1	0.0040	0.016	ND(17)*1	ND(0.38)	ND(0.0070)	ND(1.9)			S
	2015/4/8	ND(0.0016)	0.0062	ND(15)*1	0.70	ND(0.011)	ND(2.0)	ND(6.3 × 10 ⁻⁶)	ND(6.0 × 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*2	ND(0.39)	In progress		In progress	In progress	S
	2015/8/17	ND(0.080)	ND(0.070)	0.02*2	ND(0.42)	0.002		In progress	In progress	S
	2015/7/21	ND(0.061)	0.061	0.03*2	ND(0.45)	0.004		In progress	In progress	S
	2015/6/16	ND(0.058)	ND(0.049)	0.02*2	ND(0.44)	0.003		In progress	In progress	S
	2015/3/3	ND(0.096)	ND(0.053)	0.04*2	ND(0.43)	0.004		ND(6 × 10 ⁻⁶)	8 × 10 ⁻⁶	S
T-D9	2015/9/1	0.0047	0.022	ND(17)*1	ND(0.38)	ND(0.0070)	ND(1.6)			S
	2015/4/9	ND(0.0017)	0.0043	ND(17)*1	ND(0.32)	ND(0.0092)	ND(1.6)	ND(6.7 × 10 ⁻⁶)	ND(6.5 × 10 ⁻⁶)	S
T-3	2015/9/2	0.020	0.085	ND(17)*1	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	2015/8/5	0.0024	0.012	S
		0.0015	0.0085	B

T-14	2015/9/1	0.0017	0.011	S
		0.0057	0.026	B

T-D1	2015/9/1	0.0029	0.013	S
		ND(0.0015)	0.0037	B

T-6	2015/9/8	0.013	0.062	S
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T-S8	2015/8/2	0.0061	0.025	S
		0.0029	0.0097	B

T-3	2015/9/8	0.025	0.087	S
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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	2015/8/4	0.0033	0.014	S
		0.0026	0.013	B

T-S4	2015/8/4	0.0095	0.035	S
		ND(0.0014)	0.0078	B

T-D5	2015/9/1	0.0040	0.016	S
		ND(0.0018)	0.0048	B

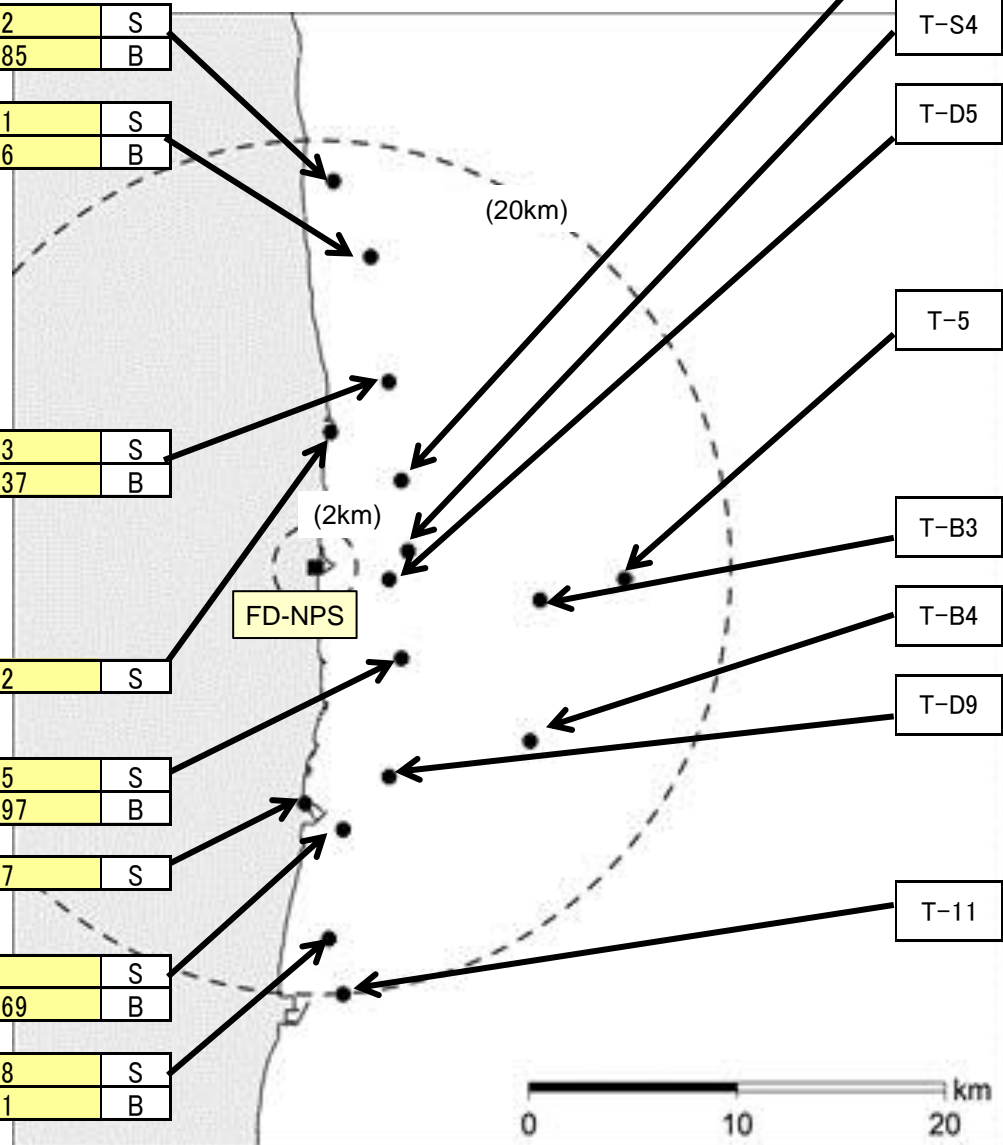
T-5	2015/9/1	ND(0.0017)	0.0019	S
		ND(0.0018)	0.0031	B

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	2015/9/1	0.0047	0.022	S
		0.0022	0.0077	B

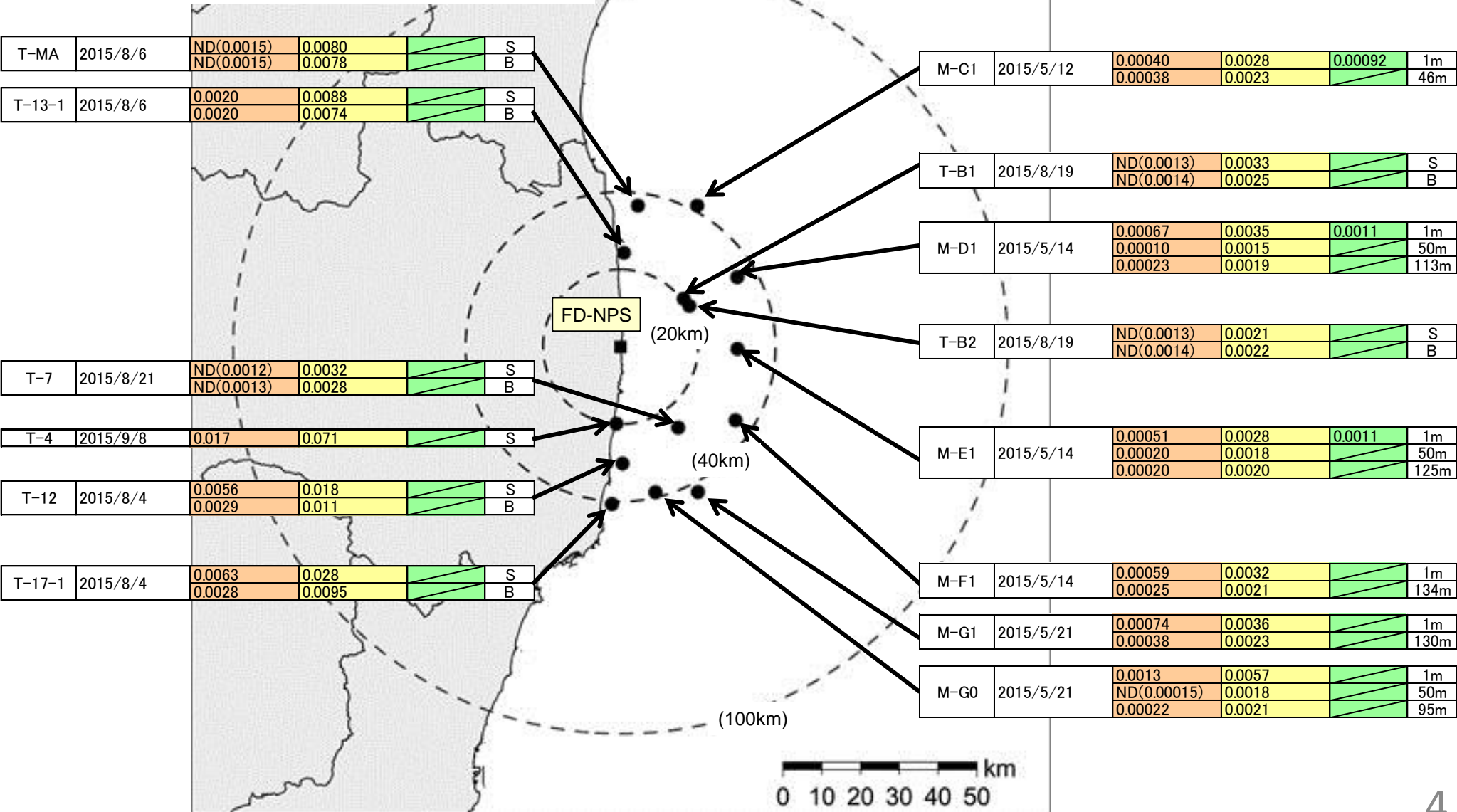
T-11	2015/9/1	0.013	0.054	S
		0.0079	0.035	B



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
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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(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	2015/8/8	In progress	In progress	0.025	0.079	In progress	1m
		0.00088	0.0039	0.026	0.095	0.0010	1m
	2015/5/11	0.00016	0.0015				50m
		0.00032	0.0019				123m

T-22	2015/8/6	0.0018	0.0080				S
		0.0027	0.0098				B

M-D3	2015/8/8	In progress	In progress	0.030	0.093	In progress	1m
		0.00068	0.0035	0.026	0.092	0.0010	1m
	2015/5/16	0.00015	0.0016				100m
		ND(0.00014)	0.0016				211m

M-F3	2015/8/6	In progress	In progress	0.025	0.093	In progress	1m
		0.00054	0.0034	0.023	0.080	0.0016	1m
	2015/5/17	0.00014	0.0016				100m
		ND(0.00012)	0.0018				222m

T-18	2015/8/21	0.0013	0.0079				S
		ND(0.0012)	0.0060				B

T-20	2015/8/4	0.0081	0.032				S
		0.0023	0.012				B

T-M10	2015/8/21	ND(0.0013)	0.0027				S
		ND(0.0013)	0.0030				B

M-E3	2015/8/8	In progress	In progress	0.028	0.065	In progress	1m
		0.00061	0.0034	0.024	0.084	0.0012	1m
	2015/5/16	ND(0.00011)	0.0016				100m
		0.00014	0.0016				219m

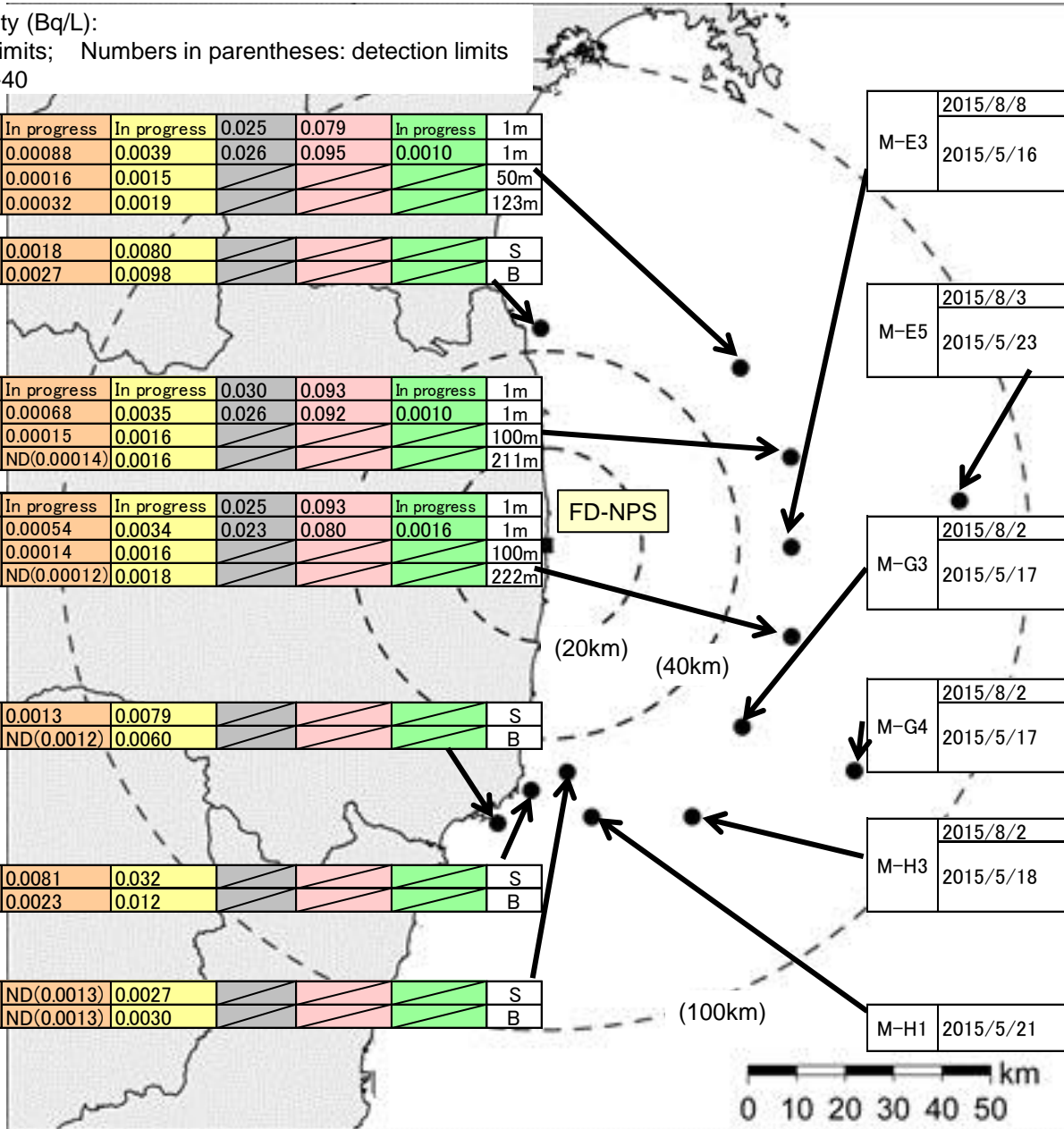
M-E5	2015/8/3	In progress	In progress	0.028	0.076	In progress	1m
		0.00031	0.0024	0.024	0.077	0.0012	1m
	2015/5/23	0.00028	0.0022				100m
		ND(0.000078)	0.00077				504m

M-G3	2015/8/2	In progress	In progress	0.030	0.085	In progress	1m
		0.00059	0.0033	0.025	0.092	0.0015	1m
	2015/5/17	ND(0.00011)	0.0016				100m
		0.00022	0.0018				198m

M-G4	2015/8/2	In progress	In progress	0.028	0.086	In progress	1m
		0.00025	0.0024	0.027	0.078	0.0012	1m
	2015/5/17	0.00028	0.0024				100m
		ND(0.000071)	0.00054				642m

M-H3	2015/8/2	In progress	In progress	0.030	0.068	In progress	1m
		0.00049	0.0026	0.028	0.082	0.00078	1m
	2015/5/18	0.00019	0.0016				100m
		0.00015	0.0017				221m

M-H1	2015/5/21	0.00065	0.0032				1m
		0.00026	0.0020				126m



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		S
		ND(0.0014)	0.0036		M
		0.0015	0.0058		B
	2015/7/6	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		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

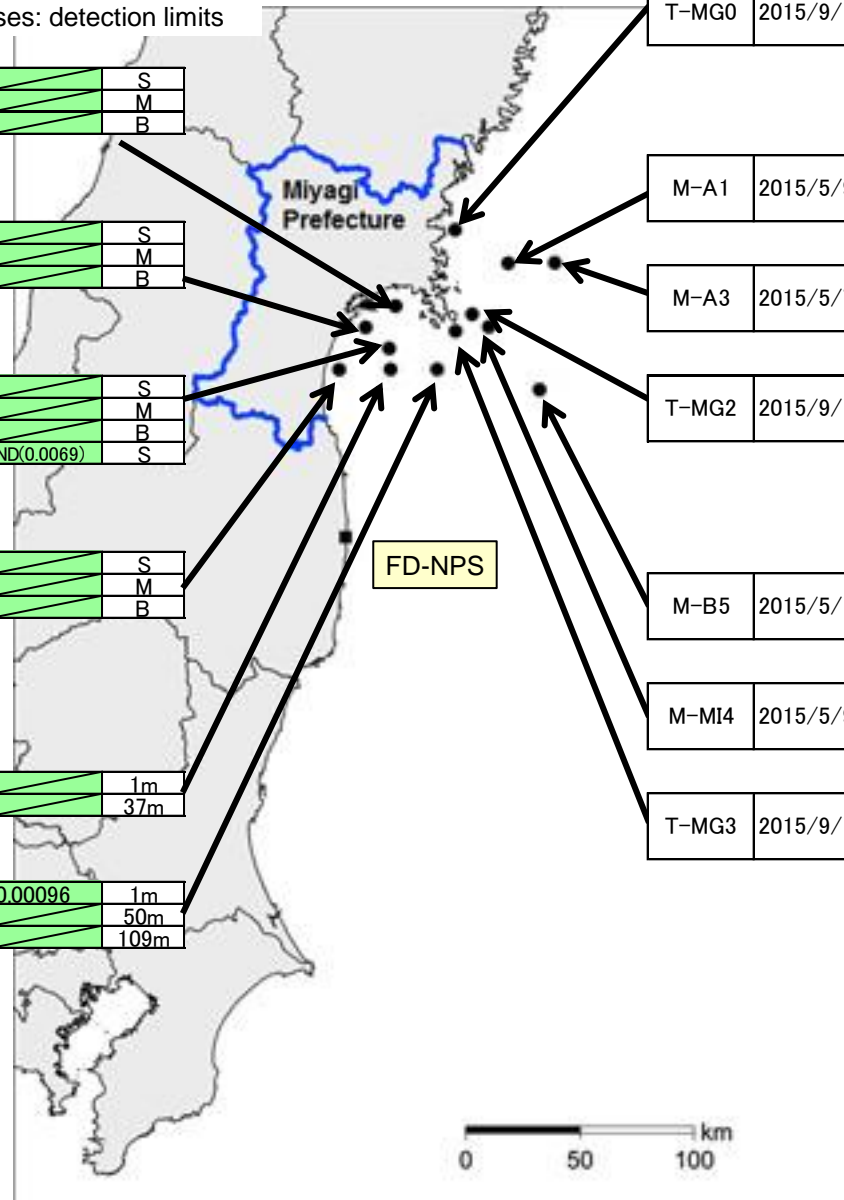
M-A3	2015/5/7	ND(0.000094)	0.0014		1m
		ND(0.00013)	0.0017		100m
		ND(0.00010)	0.00075		486m

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



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

