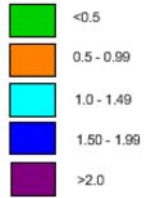


Water Velocity
(m/s)

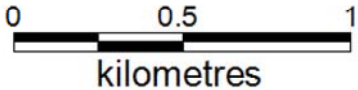
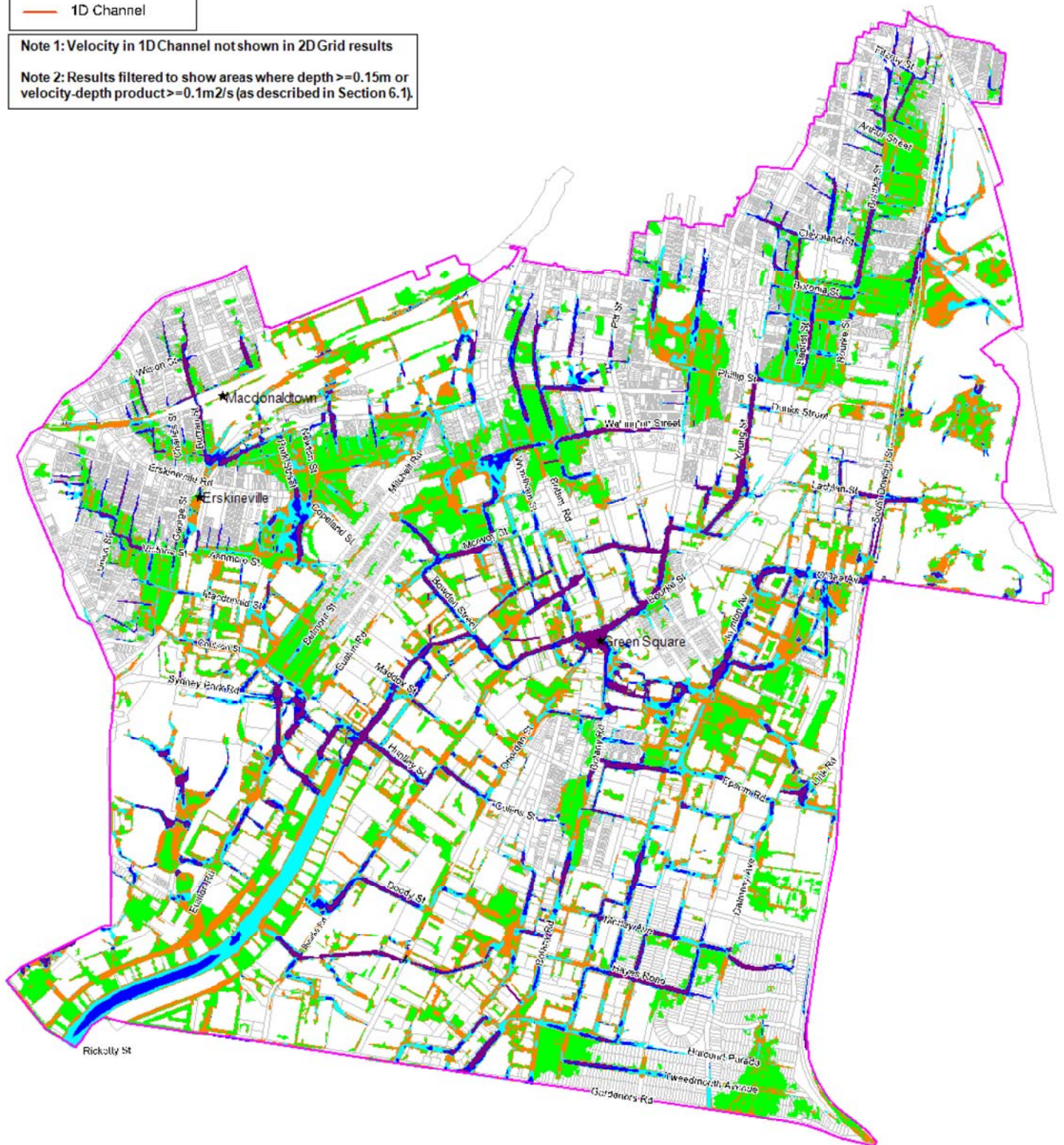


1D Channel



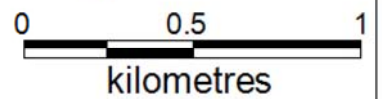
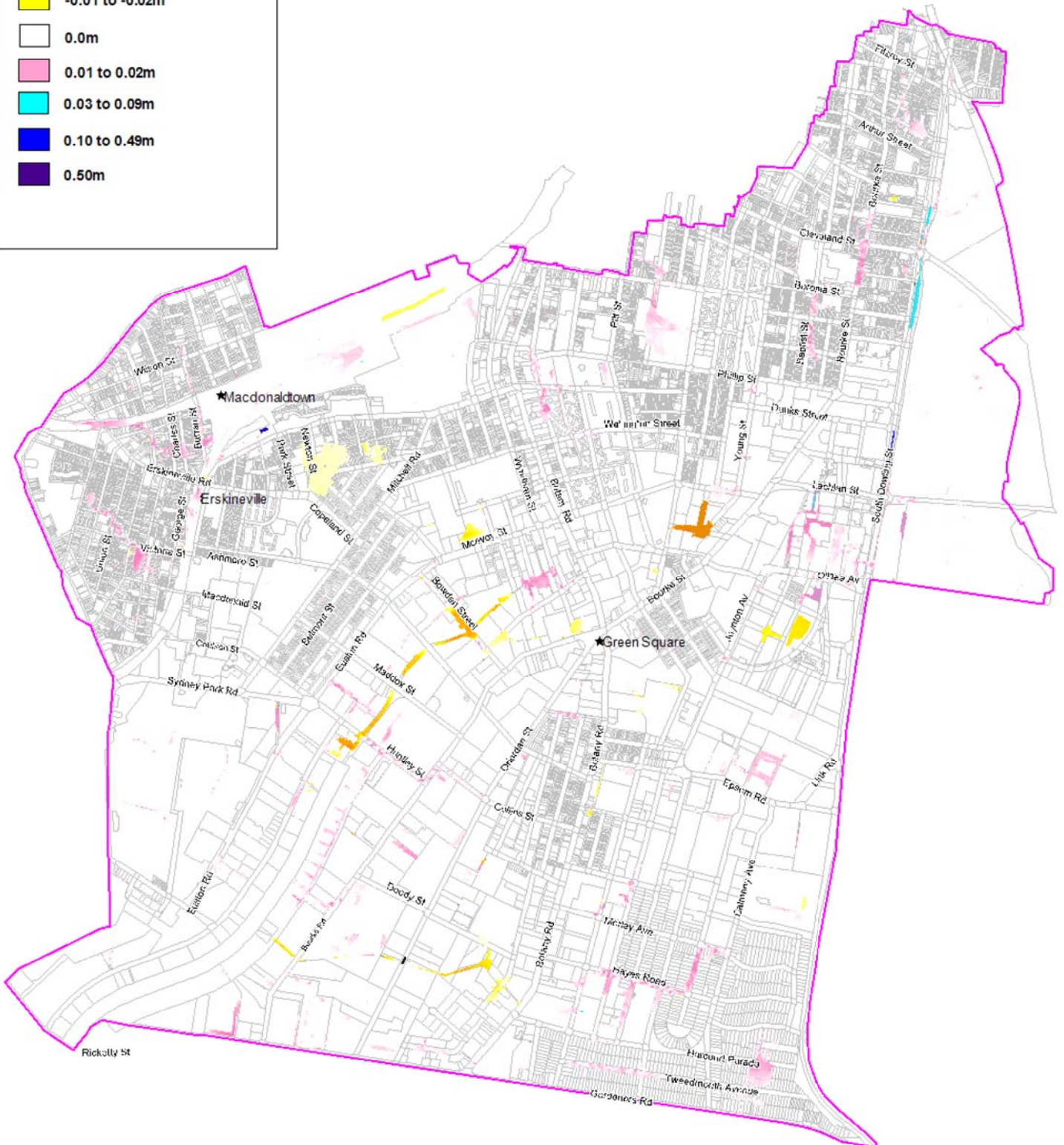
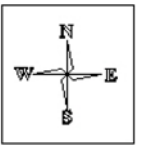
Note 1: Velocity in 1D Channel not shown in 2D Grid results

Note 2: Results filtered to show areas where depth $\geq 0.15\text{m}$ or velocity-depth product $\geq 0.1\text{m}^2/\text{s}$ (as described in Section 6.1).



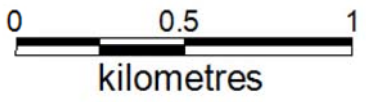
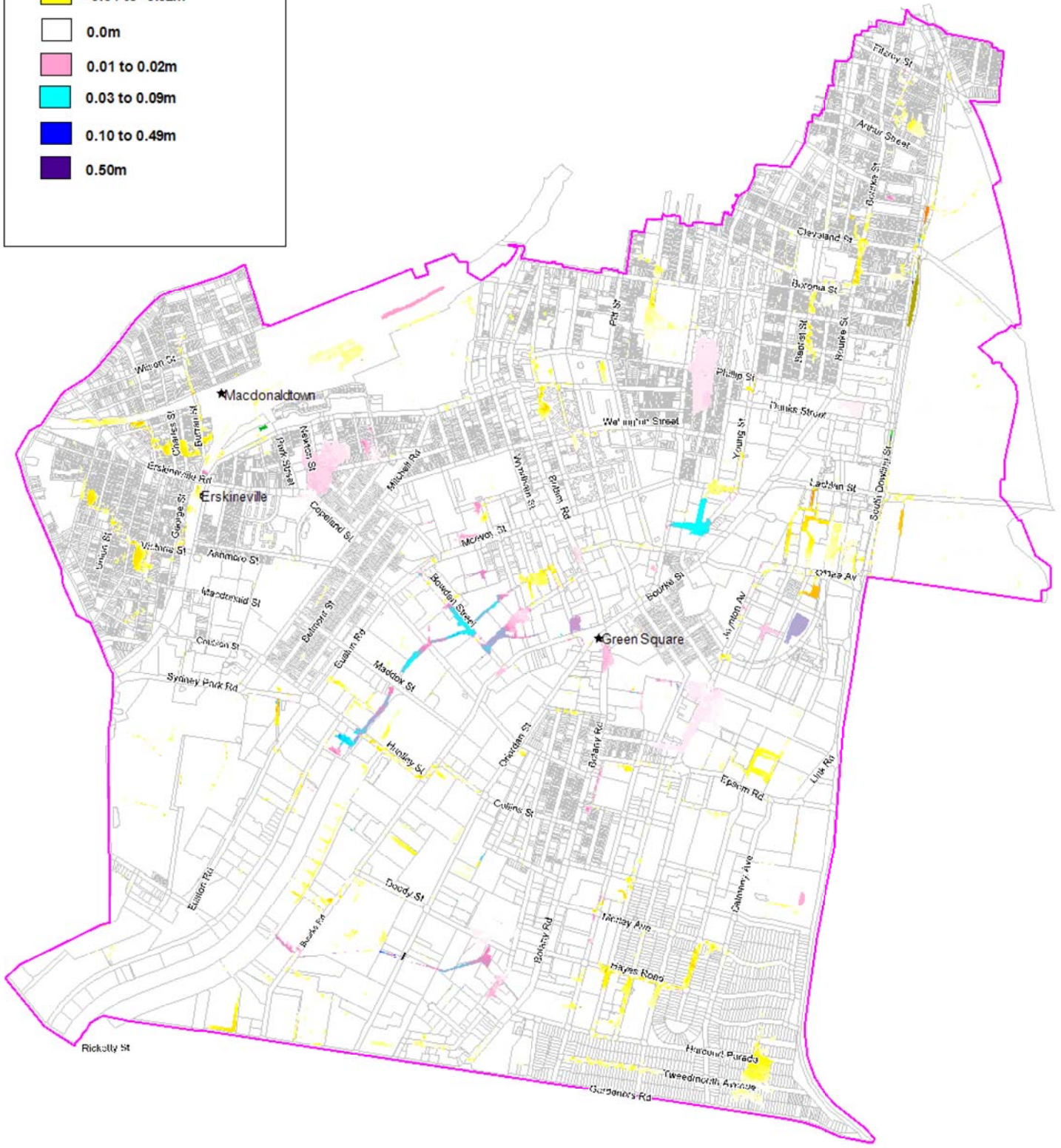
LEGEND - PEAK WATER LEVEL DIFFERENCE (m)

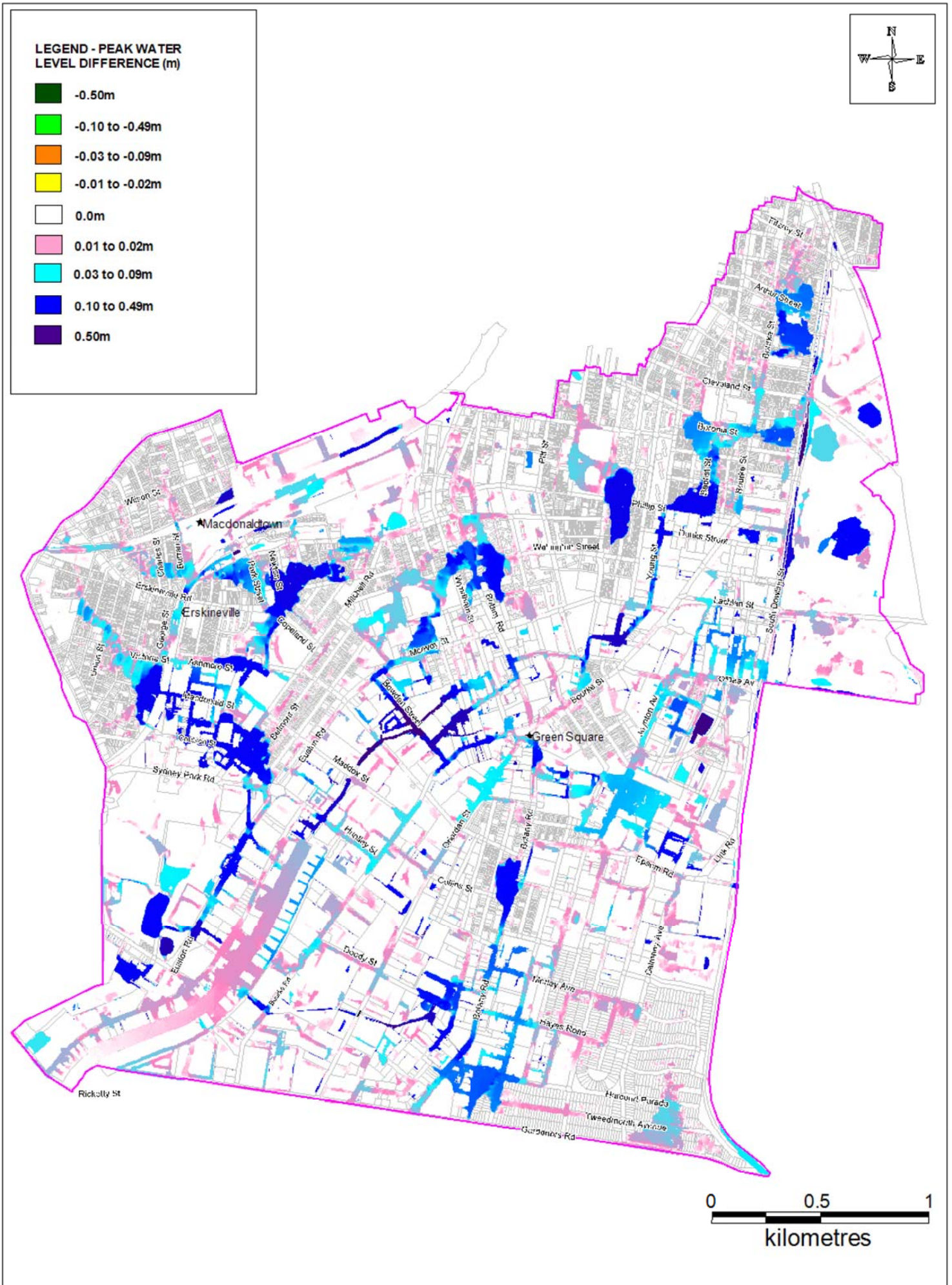
- 0.50m
- 0.10 to -0.49m
- 0.03 to -0.09m
- 0.01 to -0.02m
- 0.0m
- 0.01 to 0.02m
- 0.03 to 0.09m
- 0.10 to 0.49m
- 0.50m

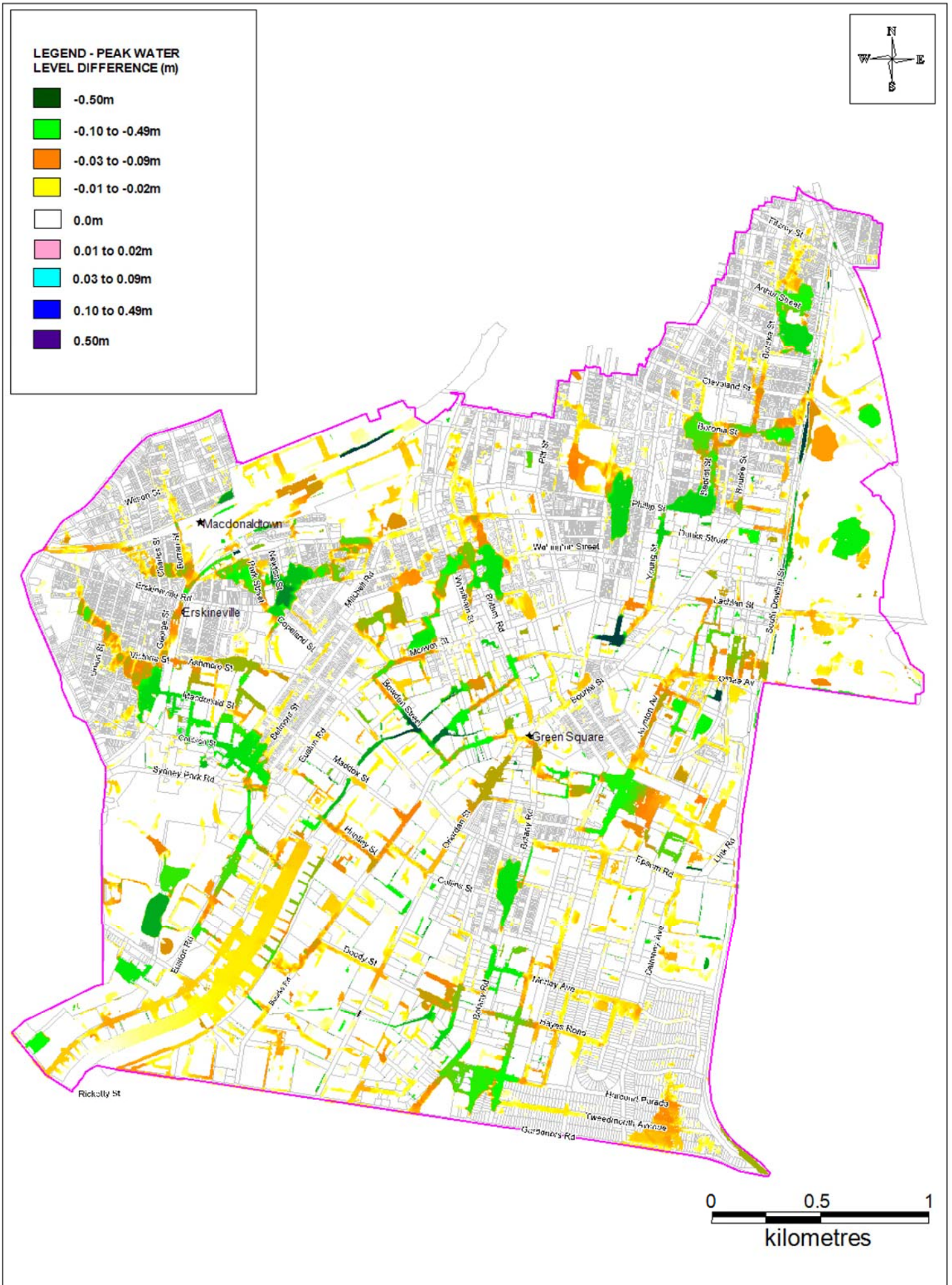


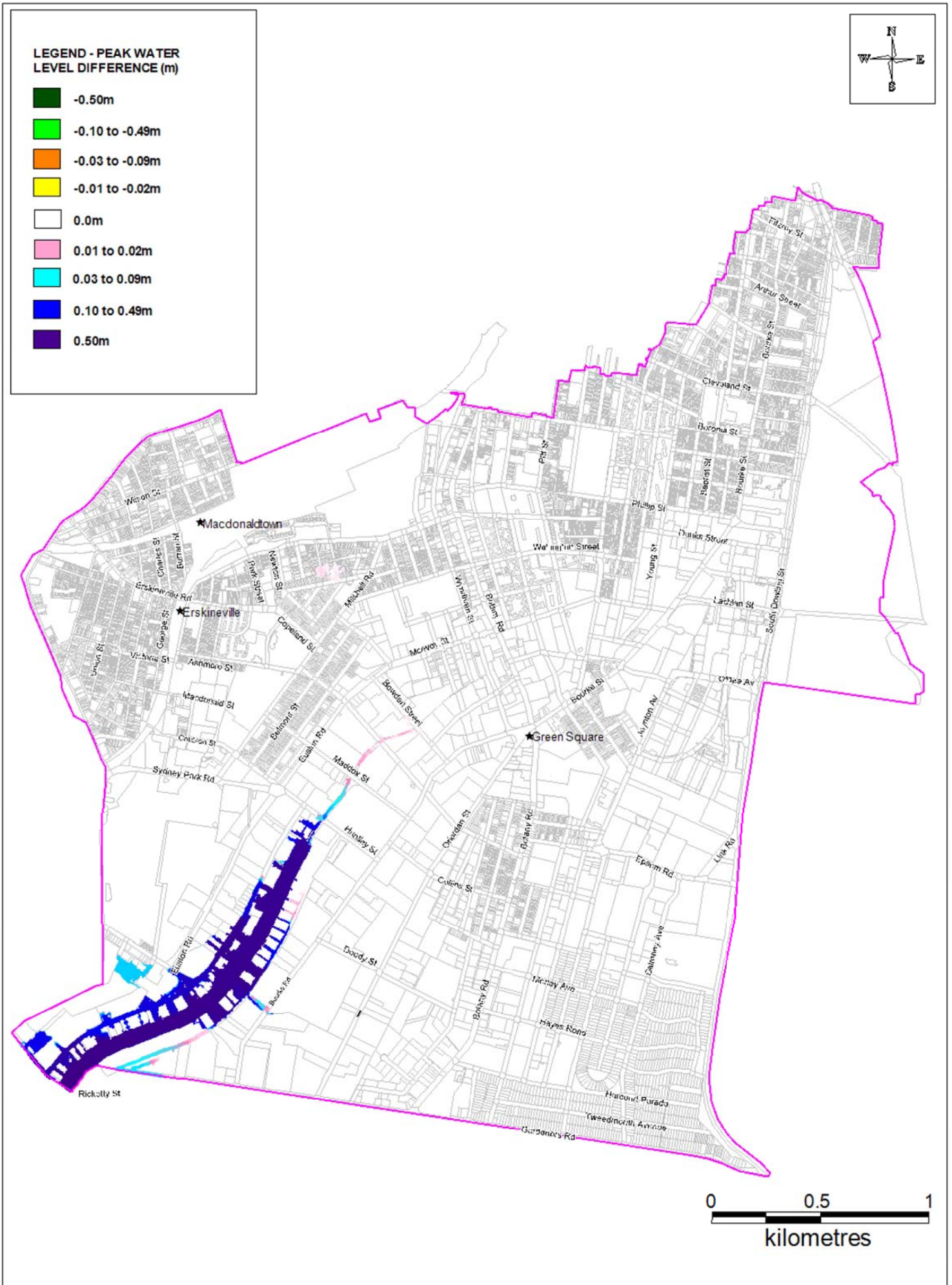
LEGEND - PEAK WATER LEVEL DIFFERENCE (m)

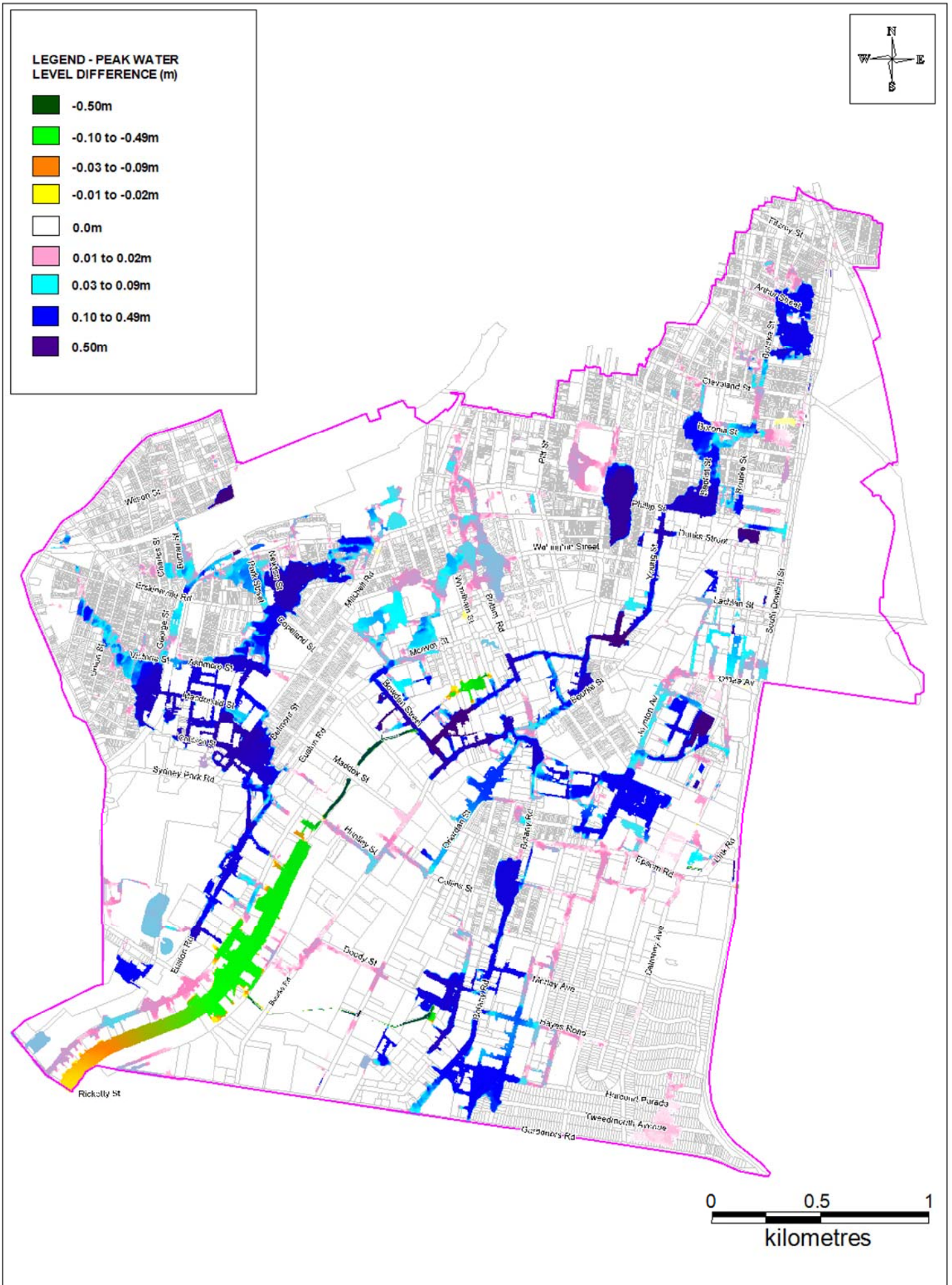
- 0.50m
- 0.10 to -0.49m
- 0.03 to -0.09m
- 0.01 to -0.02m
- 0.0m
- 0.01 to 0.02m
- 0.03 to 0.09m
- 0.10 to 0.49m
- 0.50m

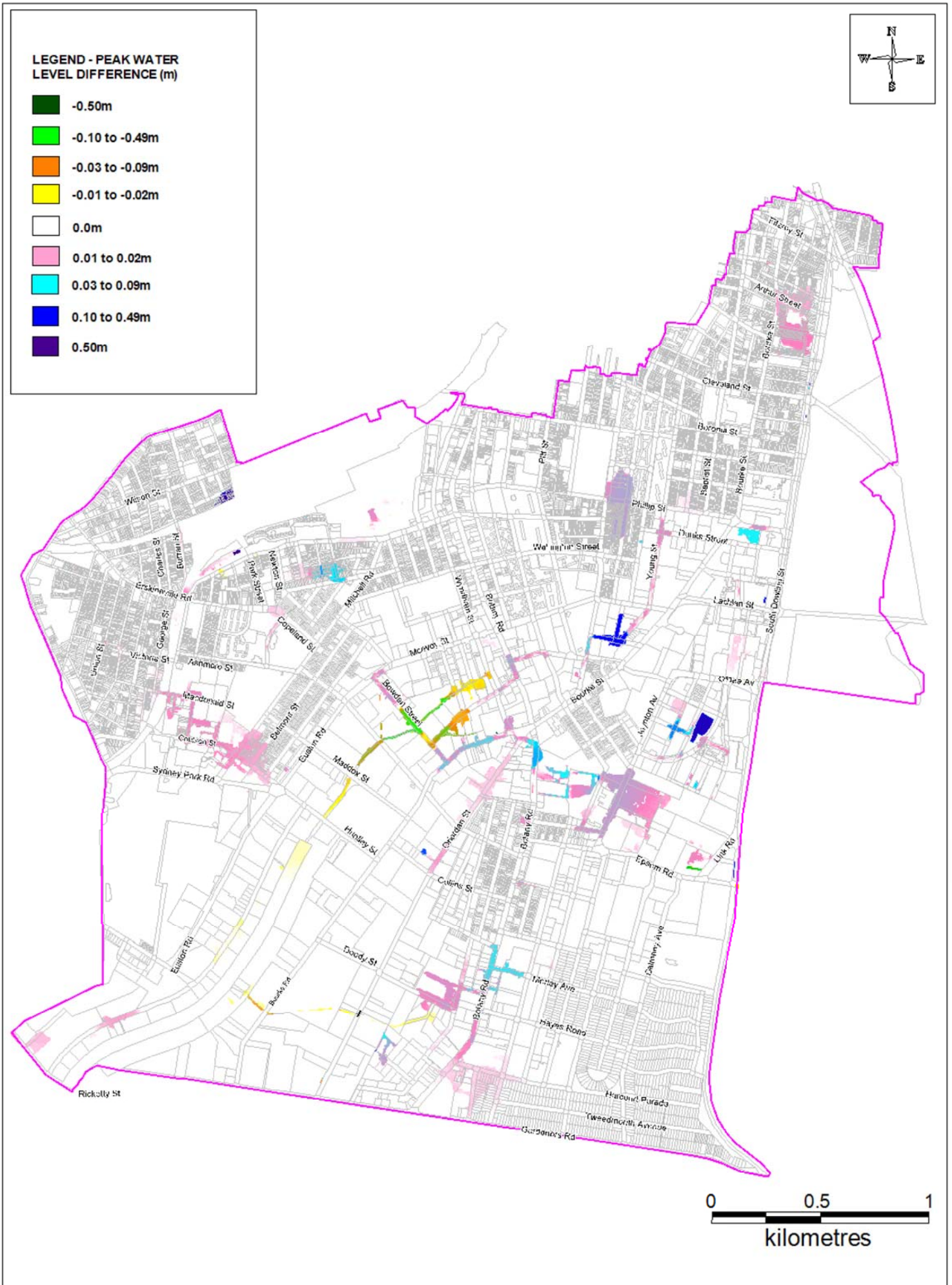


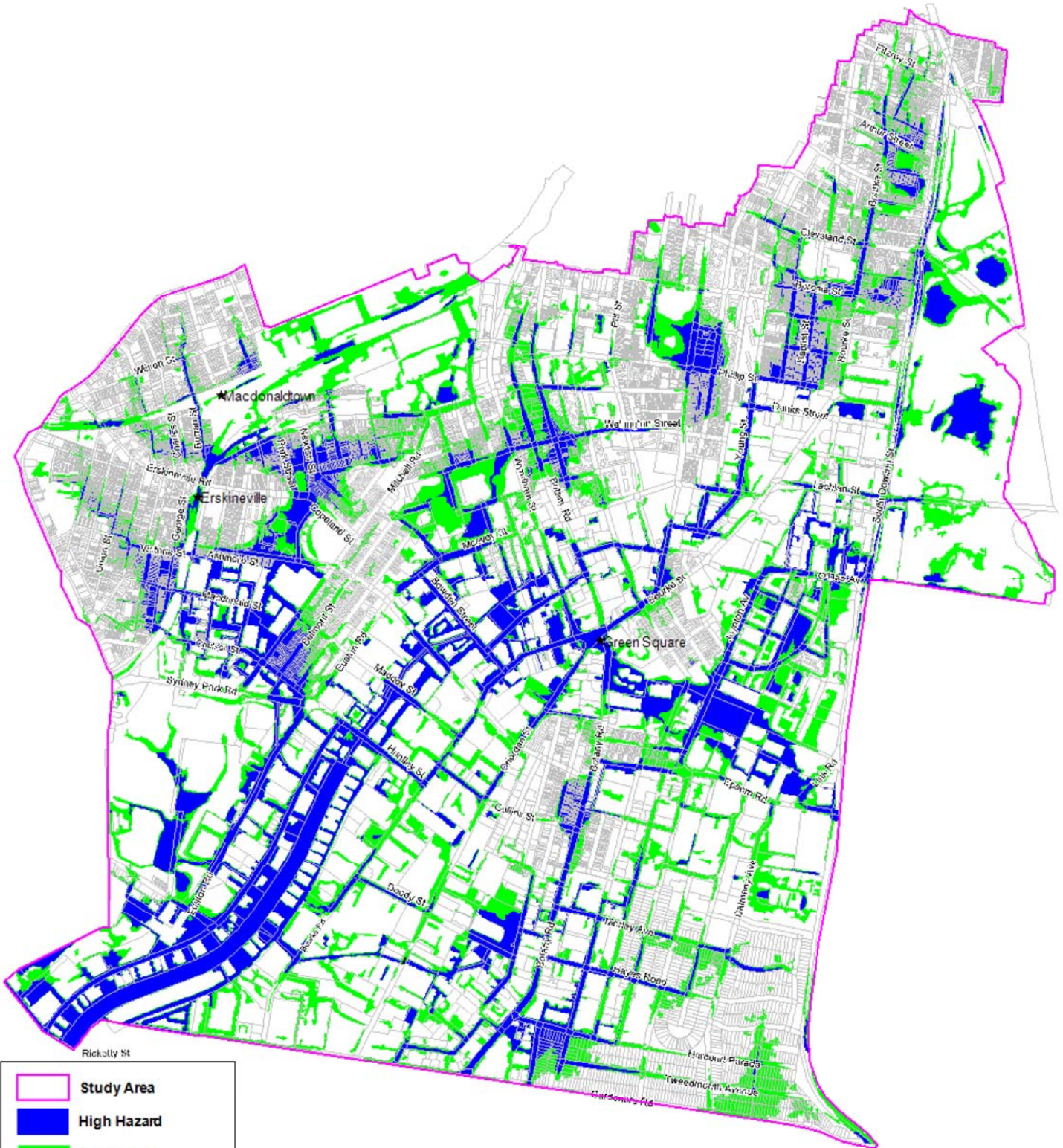









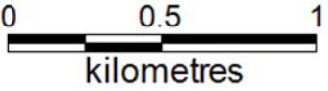


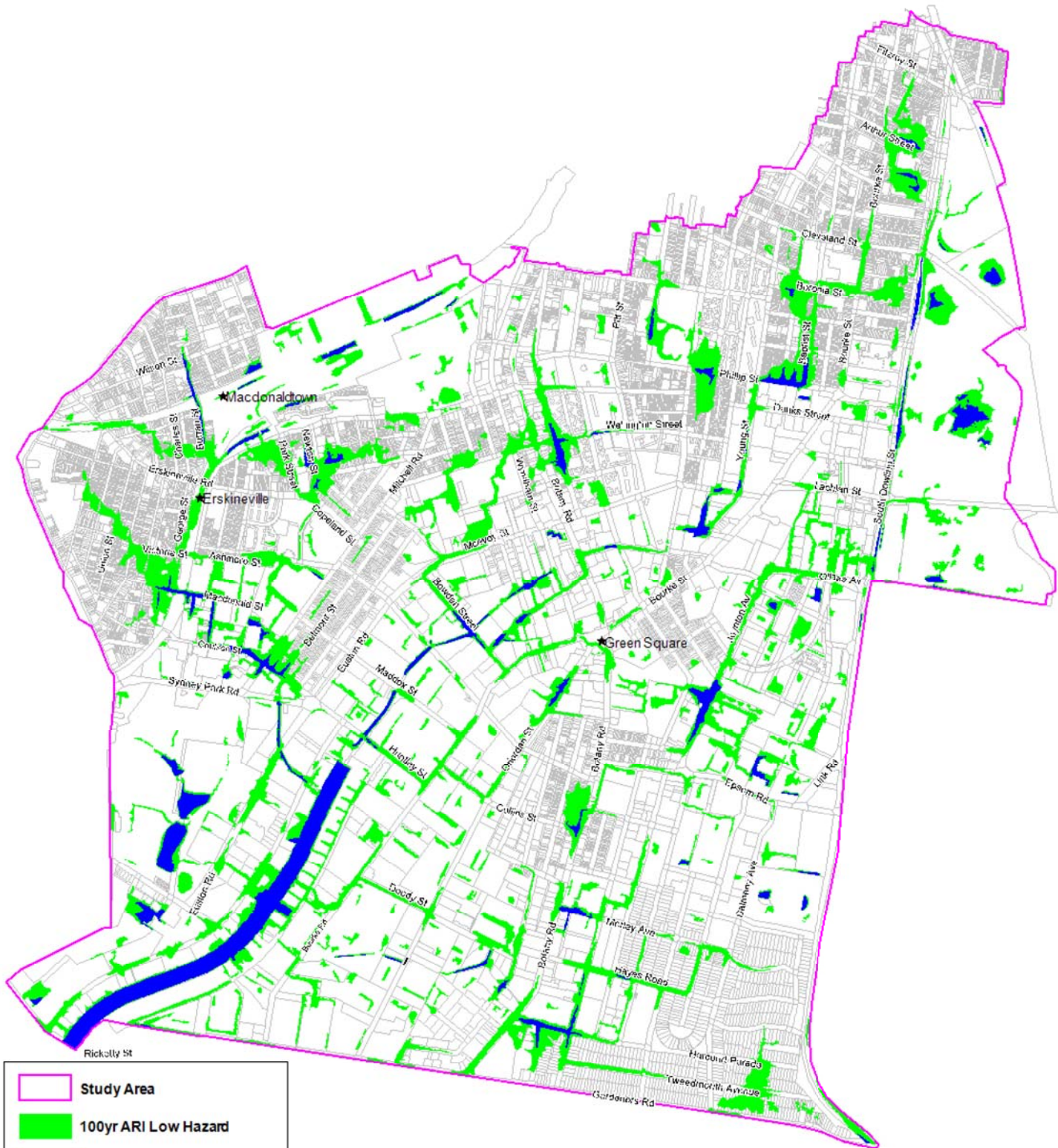




	Study Area
	High Hazard
	Low Hazard

Note: Results filtered to show areas where depth $\geq 0.15\text{m}$ or velocity-depth product $\geq 0.1\text{m}^2/\text{s}$ (as described in Section 6.1).



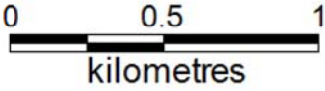


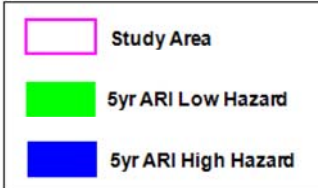
 Study Area

 100yr ARI Low Hazard

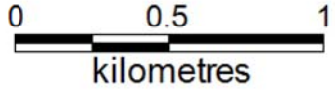
 100yr ARI High Hazard

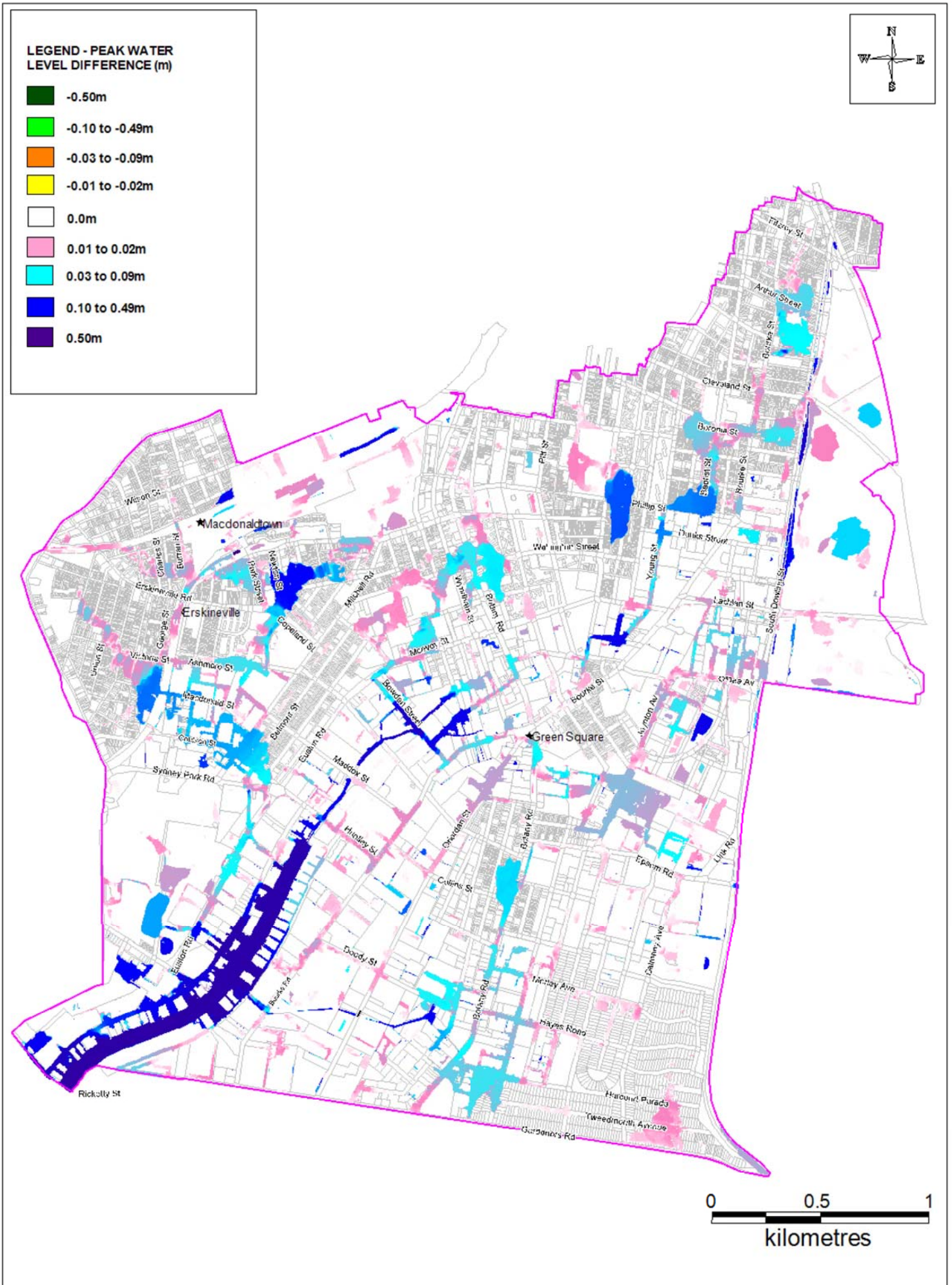
Note: Results filtered to show areas where depth $\geq 0.15\text{m}$ or velocity-depth product $\geq 0.1\text{m}^2/\text{s}$ (as described in Section 6.1).





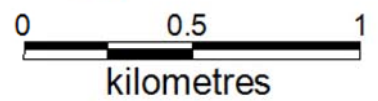
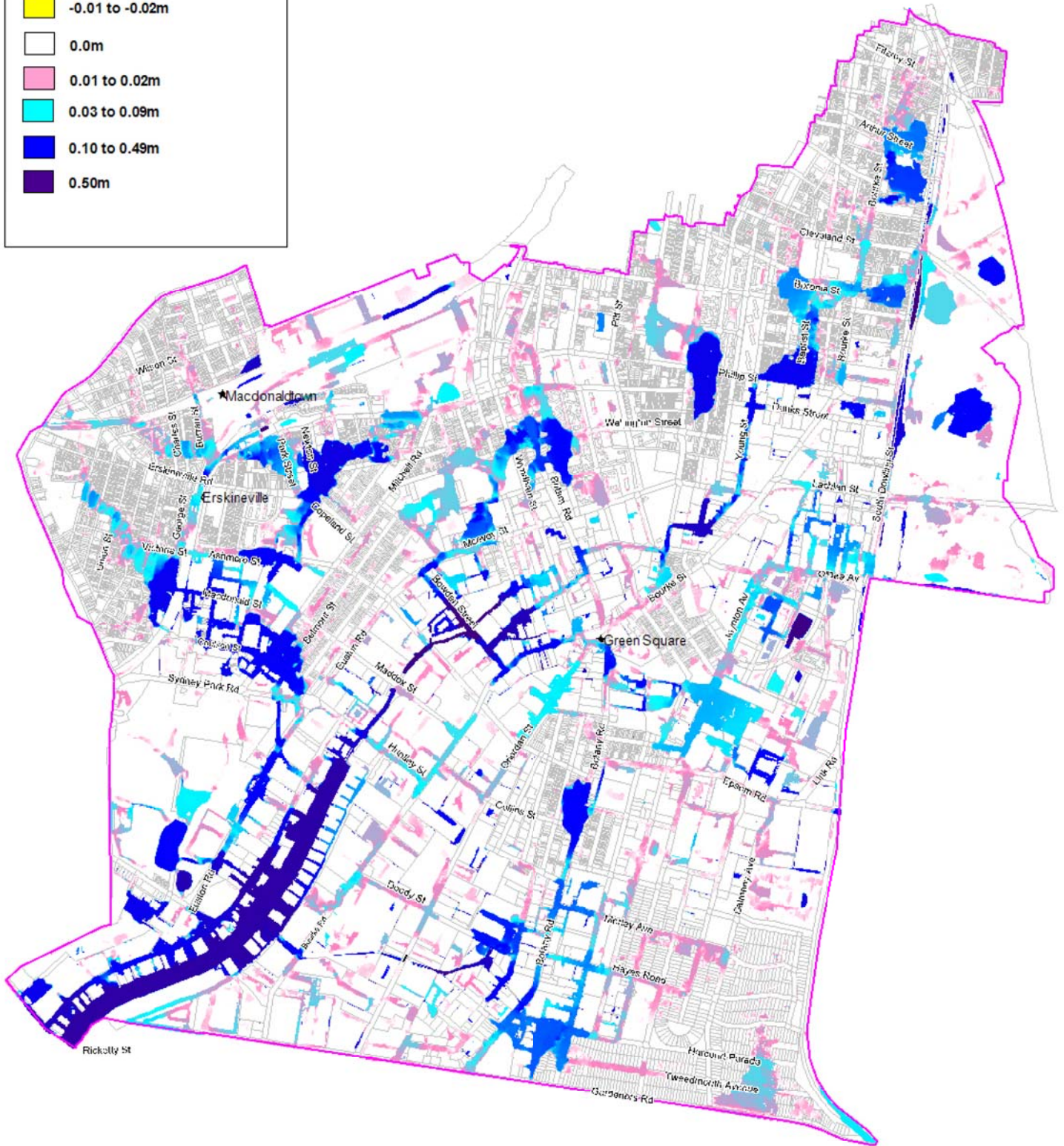
Note: Results filtered to show areas where depth $\geq 0.15\text{m}$ or velocity-depth product $\geq 0.1\text{m}^2/\text{s}$ (as described in Section 6.1).





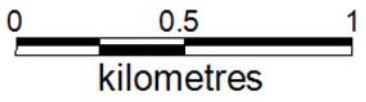
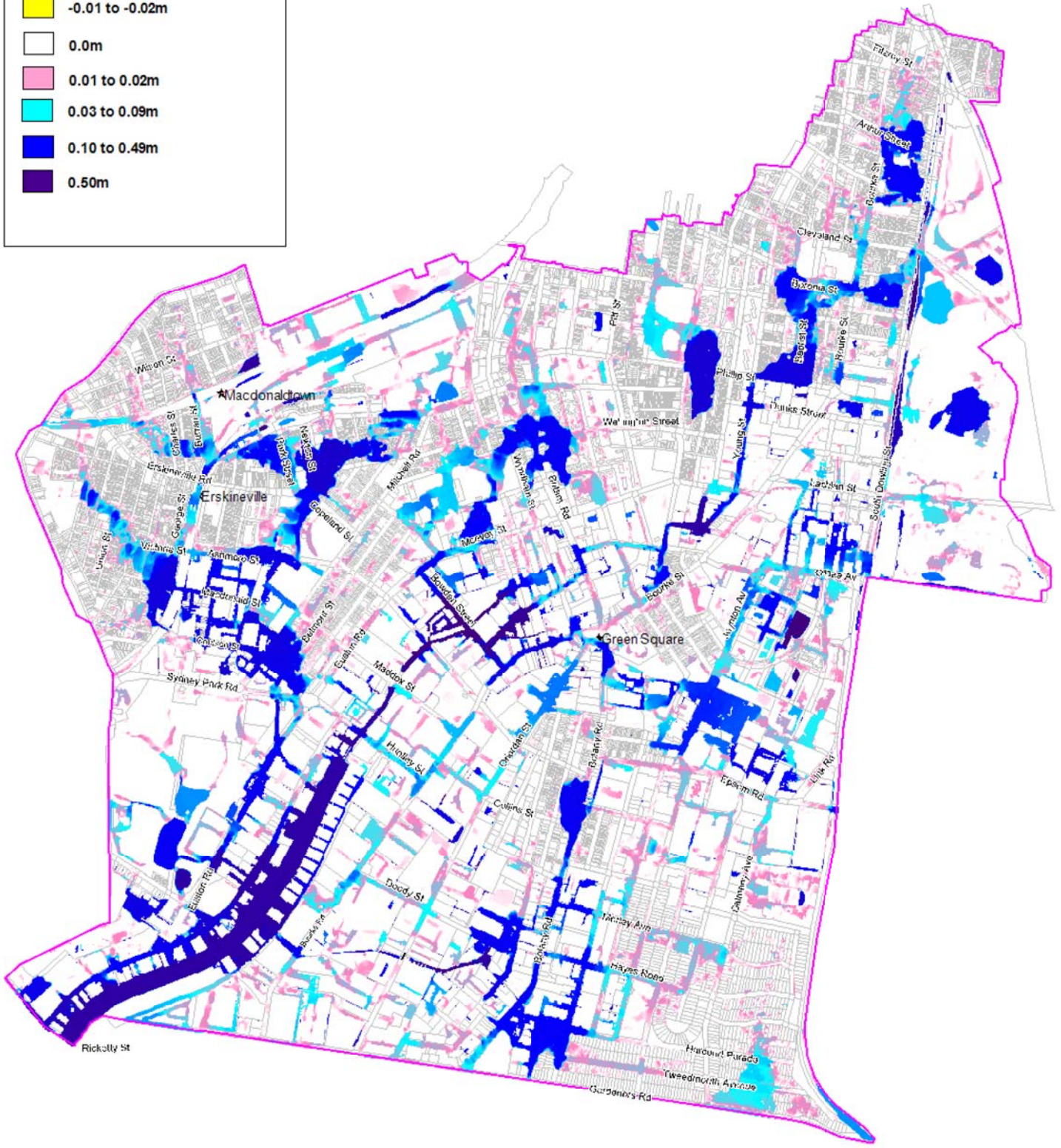
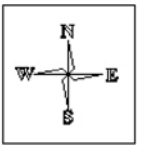
LEGEND - PEAK WATER LEVEL DIFFERENCE (m)

- 0.50m
- 0.10 to -0.49m
- 0.03 to -0.09m
- 0.01 to -0.02m
- 0.0m
- 0.01 to 0.02m
- 0.03 to 0.09m
- 0.10 to 0.49m
- 0.50m



LEGEND - PEAK WATER LEVEL DIFFERENCE (m)

- 0.50m
- 0.10 to -0.49m
- 0.03 to -0.09m
- 0.01 to -0.02m
- 0.0m
- 0.01 to 0.02m
- 0.03 to 0.09m
- 0.10 to 0.49m
- 0.50m



Appendix A

Rainfall Event Rating

Rank	Date			Time		Depth(mm)	Intensity	ARI
1	8	11	1984	22	24	90	180	>100yr
2	8	11	1984	22	54	66	132	~100yr
3	26	1	1991	14	54	60	120	~50yr
4	26	1	1991	15	24	55	110	20yr-50yr
5	20	11	1961	11	54	49	98	~20yr
6	21	8	1971	17	24	48	96	10yr-20yr
7	21	8	1971	17	54	46	92	10yr
8	20	11	1932	7	54	45	90	10yr
9	20	11	1961	12	24	45	90	10yr
10	10	3	1975	9	54	44	88	~10yr
11	10	3	1975	10	24	44	88	~10yr
12	15	2	1984	13	24	44	88	~10yr
13	26	10	1922	22	24	42	84	5yr-10yr
14	6	1	1989	14	54	42	84	5yr-10yr
15	10	4	1998	10	24	42	84	5yr-10yr
16	8	11	1984	23	24	40	80	5yr
17	20	3	1914	23	24	40	80	5yr
18	25	9	1951	18	24	38	76	~5yr
19	1	3	1977	10	24	38	76	~5yr
20	31	1	1938	6	54	38	76	~5yr
21	31	1	1938	7	24	38	76	~5yr
22	16	2	1932	0	54	37	74	2yr-5yr
23	19	1	1926	20	54	36	72	2yr-5yr
24	8	11	1967	2	54	35	70	2yr-5yr
25	8	11	1967	2	24	35	70	2yr-5yr
26	23	1	1933	3	54	34	68	2yr-5yr
27	29	9	1943	8	24	34	68	2yr-5yr
28	29	9	1943	8	54	34	68	2yr-5yr
29	10	11	1976	18	54	34	68	2yr-5yr
30	26	10	1922	21	54	34	68	2yr-5yr
31	8	11	1984	23	54	34	68	2yr-5yr
32	9	12	1988	19	24	33	66	2yr-5yr
33	15	3	1956	15	24	33	66	2yr-5yr
34	15	2	1984	12	54	33	66	2yr-5yr
35	10	3	1975	10	54	33	66	2yr-5yr
36	29	12	1934	15	24	32	64	2yr-5yr
37	10	11	1976	18	24	32	64	2yr-5yr
38	15	3	1956	15	54	32	64	2yr-5yr
39	8	11	1984	8	24	32	64	2yr-5yr
40	27	12	1955	13	54	31	62	2yr
41	8	1	1973	1	24	31	62	2yr
42	8	1	1973	1	54	31	62	2yr
43	8	1	1973	2	24	31	62	2yr
44	20	11	1932	8	24	31	62	2yr
45	1	3	1977	9	54	31	62	2yr
46	10	4	1998	9	54	31	62	2yr
47	6	9	2006	22	54	30	60	2yr
48	23	1	1933	4	24	30	60	2yr
49	21	3	1983	15	54	30	60	2yr

Rank	Date			Time		Depth(mm)	Intensity	ARI
1	8	11	1984	22	54	119	119	>100yr
2	8	11	1984	23	54	101	101	>100yr
3	10	3	1975	10	54	88	88	50yr
4	10	3	1975	9	54	74	74	20yr
5	21	8	1971	17	54	74	74	20yr
6	21	8	1971	18	54	69	69	10yr-20yr
7	20	11	1961	12	54	69	69	10yr-20yr
8	29	9	1943	8	54	68	68	10yr-20yr
9	10	4	1998	10	54	67	67	10yr-20yr
10	31	1	1938	7	54	67	67	10yr-20yr
11	26	1	1991	15	54	65	65	10yr-20yr
12	20	11	1961	11	54	64	64	10yr
13	8	11	1967	2	54	64	64	10yr
14	8	1	1973	1	54	62	62	~10yr
15	8	1	1973	2	54	62	62	~10yr
16	29	9	1943	9	54	61	61	~10yr
17	20	11	1932	8	54	60	60	5yr-10yr
18	26	1	1991	14	54	60	60	5yr-10yr
19	31	1	1938	6	54	59	59	5yr-10yr
20	25	9	1951	18	54	59	59	5yr-10yr
21	9	2	1958	1	54	59	59	5yr-10yr
22	20	11	1932	7	54	55	55	5yr
23	26	10	1922	22	54	54	54	~5yr
24	8	11	1967	3	54	52	52	~5yr
25	29	3	1957	1	54	52	52	~5yr
26	1	2	1973	8	54	52	52	~5yr
27	15	6	1949	8	54	51	51	2yr-5yr
28	19	5	1933	19	54	51	51	2yr-5yr
29	12	7	1960	16	54	51	51	2yr-5yr
30	17	3	1983	0	54	50	50	2yr-5yr
31	12	7	1960	15	54	50	50	2yr-5yr
32	9	2	1958	0	54	49	49	2yr-5yr
33	15	2	1984	13	54	48	48	2yr-5yr
34	16	2	1932	1	54	48	48	2yr-5yr
35	23	1	1955	6	54	48	48	2yr-5yr
36	23	1	1955	5	54	48	48	2yr-5yr
37	12	11	1995	0	54	47	47	2yr-5yr
38	1	2	1973	7	54	47	47	2yr-5yr
39	1	5	1955	0	54	47	47	2yr-5yr
40	30	4	1955	23	54	46	46	2yr-5yr
41	1	3	1977	10	54	46	46	2yr-5yr
42	19	11	1961	3	54	46	46	2yr-5yr
43	19	11	1961	2	54	46	46	2yr-5yr
44	1	5	1955	1	54	46	46	2yr-5yr
45	23	1	1933	4	54	46	46	2yr-5yr
46	10	11	1976	19	54	46	46	2yr-5yr
47	10	3	1975	11	54	45	45	2yr-5yr
48	25	5	1925	18	54	45	45	2yr-5yr
49	10	6	1991	22	54	44	44	2yr-5yr

Rank	Date			Time		Depth(mm)	Intensity	ARI
1	8	11	1984	23	54	156	104.00	>100yr
2	10	3	1975	11	54	113	75.33	>100yr
3	10	3	1975	10	24	111	74.00	100yr
4	8	11	1984	22	24	110	73.33	100yr
5	8	1	1973	2	54	93	62.00	20yr-50yr
6	21	8	1971	19	24	87	58.00	20yr-50yr
7	29	9	1943	10	24	83	55.33	20yr
8	29	9	1943	8	54	83	55.33	20yr
9	21	8	1971	17	54	82	54.67	~20yr
10	31	1	1938	7	24	80	53.33	10yr-20yr
11	31	1	1938	8	54	79	52.67	10yr-20yr
12	20	11	1961	13	24	76	50.67	10yr-20yr
13	20	11	1961	11	54	73	48.67	10yr
14	1	2	1973	8	54	73	48.67	10yr
15	10	4	1998	11	54	73	48.67	10yr
16	9	11	1984	1	24	73	48.67	10yr
17	10	4	1998	10	24	72	48.00	10yr
18	23	1	1955	7	24	70	46.67	5yr-10yr
19	1	5	1955	1	24	70	46.67	5yr-10yr
20	30	4	1955	23	54	70	46.67	5yr-10yr
21	19	11	1961	4	24	69	46.00	5yr-10yr
22	9	2	1958	1	24	68	45.33	5yr-10yr
23	23	1	1933	5	54	67	44.67	5yr-10yr
24	20	11	1932	8	54	67	44.67	5yr-10yr
25	8	11	1967	2	54	66	44.00	5yr-10yr
26	8	11	1967	4	24	66	44.00	5yr-10yr
27	29	3	1957	2	54	66	44.00	5yr-10yr
28	9	2	1958	2	54	65	43.33	5yr-10yr
29	26	1	1991	16	24	65	43.33	5yr-10yr
30	8	1	1973	1	24	63	42.00	5yr
31	25	9	1951	19	24	62	41.33	5yr
32	27	3	1942	20	54	62	41.33	5yr
33	12	7	1960	16	24	61	40.67	~5yr
34	17	3	1983	1	24	60	40.00	~5yr
35	26	1	1991	14	54	60	40.00	~5yr
36	5	8	1986	14	54	59	39.33	2yr-5yr
37	16	2	1932	2	54	59	39.33	2yr-5yr
38	9	3	1913	1	24	59	39.33	2yr-5yr
39	19	5	1933	20	54	58	38.67	2yr-5yr
40	8	1	1973	4	24	58	38.67	2yr-5yr
41	12	7	1960	17	54	58	38.67	2yr-5yr
42	26	10	1922	23	54	58	38.67	2yr-5yr
43	27	3	1942	22	24	57	38.00	2yr-5yr
44	19	5	1933	19	24	57	38.00	2yr-5yr
45	23	1	1955	5	54	56	37.33	2yr-5yr
46	28	3	1919	1	24	56	37.33	2yr-5yr
47	15	6	1949	10	24	55	36.67	2yr-5yr
48	15	6	1949	8	54	55	36.67	2yr-5yr
49	16	2	1932	1	24	54	36.00	2yr-5yr

Rank	Date			Time		Depth(mm)	Intensity	ARI
1	8	11	1984	23	54	180	90	>100yr
2	9	11	1984	1	54	139	69.5	>100yr
3	10	3	1975	11	54	127	63.5	>100yr
4	8	1	1973	3	54	113	56.5	50yr-100yr
5	8	1	1973	1	54	94	47	20yr-50yr
6	1	5	1955	1	54	93	46.5	20yr
7	21	8	1971	19	54	88	44	10yr-20yr
8	31	1	1938	7	54	88	44	10yr-20yr
9	29	9	1943	9	54	84	42	10yr-20yr
10	30	4	1955	23	54	84	42	10yr-20yr
11	21	8	1971	17	54	83	41.5	10yr-20yr
12	31	1	1938	9	54	82	41	10yr-20yr
13	20	11	1961	13	54	82	41	10yr-20yr
14	27	3	1942	21	54	82	41	10yr-20yr
15	10	3	1975	9	54	80	40	10yr
16	19	11	1961	3	54	80	40	10yr
17	23	1	1955	7	54	79	39.5	10yr
18	8	11	1967	3	54	78	39	~10yr
19	12	7	1960	17	54	77	38.5	5yr-10yr
20	20	11	1961	11	54	76	38	5yr-10yr
21	1	2	1973	9	54	75	37.5	5yr-10yr
22	10	4	1998	11	54	74	37	5yr-10yr
23	19	11	1961	5	54	72	36	5yr-10yr
24	9	2	1958	1	54	71	35.5	5yr-10yr
25	29	3	1957	3	54	71	35.5	5yr-10yr
26	9	3	1913	1	54	71	35.5	5yr-10yr
27	20	11	1932	9	54	70	35	5yr
28	23	1	1933	5	54	69	34.5	5yr
29	5	8	1986	15	54	68	34	~5yr
30	9	2	1958	3	54	67	33.5	2yr-5yr
31	24	10	1987	21	54	67	33.5	2yr-5yr
32	29	3	1957	1	54	66	33	2yr-5yr
33	26	1	1991	17	54	65	32.5	2yr-5yr
34	26	1	1991	15	54	65	32.5	2yr-5yr
35	17	3	1983	1	54	64	32	2yr-5yr
36	25	9	1951	19	54	63	31.5	2yr-5yr
37	5	11	1984	15	54	62	31	2yr-5yr
38	19	5	1933	19	54	62	31	2yr-5yr
39	29	9	1943	11	54	62	31	2yr-5yr
40	26	10	1922	23	54	62	31	2yr-5yr
41	23	1	1955	5	54	61	30.5	2yr-5yr
42	7	9	2006	1	54	60	30	2yr-5yr
43	28	3	1919	1	54	60	30	2yr-5yr
44	12	7	1960	15	54	60	30	2yr-5yr
45	20	4	1945	13	54	59	29.5	2yr-5yr
46	26	5	1919	7	54	59	29.5	2yr-5yr
47	19	5	1933	21	54	59	29.5	2yr-5yr
48	16	2	1932	3	54	59	29.5	2yr-5yr
49	16	2	1932	1	54	59	29.5	2yr-5yr

Rank	Date			Time		Depth(mm)	Intensity	ARI
1	8	11	1984	23	54	191	63.67	>100yr
2	9	11	1984	2	54	189	63.00	>100yr
3	10	3	1975	11	54	135	45.00	~100yr
4	1	5	1955	2	54	132	44.00	50yr-100yr
5	10	3	1975	14	54	130	43.33	50yr-100yr
6	8	1	1973	2	54	128	42.67	50yr-100yr
7	8	1	1973	5	54	126	42.00	50yr-100yr
8	10	4	1998	11	54	104	34.67	~20yr
9	27	3	1942	23	54	97	32.33	10yr-20yr
10	30	4	1955	23	54	97	32.33	10yr-20yr
11	31	1	1938	8	54	95	31.67	10yr-20yr
12	27	3	1942	20	54	94	31.33	10yr-20yr
13	5	8	1986	17	54	94	31.33	10yr-20yr
14	5	8	1986	14	54	92	30.67	10yr
15	23	1	1955	8	54	91	30.33	10yr
16	21	8	1971	20	54	91	30.33	10yr
17	9	2	1958	2	54	89	29.67	5yr-10yr
18	31	1	1938	11	54	89	29.67	5yr-10yr
19	12	7	1960	17	54	88	29.33	5yr-10yr
20	20	11	1961	14	54	87	29.00	5yr-10yr
21	8	11	1967	2	54	87	29.00	5yr-10yr
22	8	11	1967	5	54	87	29.00	5yr-10yr
23	24	10	1987	23	54	85	28.33	5yr-10yr
24	29	9	1943	11	54	85	28.33	5yr-10yr
25	19	11	1961	5	54	85	28.33	5yr-10yr
26	5	11	1984	17	54	84	28.00	5yr-10yr
27	9	3	1913	2	54	83	27.67	5yr-10yr
28	29	9	1943	8	54	83	27.67	5yr-10yr
29	21	8	1971	17	54	83	27.67	5yr-10yr
30	20	11	1961	11	54	80	26.67	5yr
31	23	1	1933	5	54	79	26.33	5yr
32	30	4	1988	17	54	78	26.00	5yr
33	1	2	1973	11	54	78	26.00	5yr
34	10	4	1998	14	54	77	25.67	2yr-5yr
35	1	2	1973	8	54	77	25.67	2yr-5yr
36	12	7	1960	20	54	76	25.33	2yr-5yr
37	17	1	1988	5	54	75	25.00	2yr-5yr
38	26	5	1919	8	54	75	25.00	2yr-5yr
39	20	11	1932	11	54	74	24.67	2yr-5yr
40	9	2	1958	5	54	74	24.67	2yr-5yr
41	29	3	1957	2	54	74	24.67	2yr-5yr
42	29	3	1957	5	54	74	24.67	2yr-5yr
43	10	5	1925	14	54	74	24.67	2yr-5yr
44	27	4	1966	11	54	73	24.33	2yr-5yr
45	24	10	1987	20	54	73	24.33	2yr-5yr
46	20	4	1945	14	54	73	24.33	2yr-5yr
47	17	1	1988	2	54	73	24.33	2yr-5yr
48	27	4	1966	14	54	72	24.00	2yr-5yr
49	17	1	1988	8	54	71	23.67	2yr-5yr

Rank	Date			Time		Depth(mm)	Intensity	ARI
1	23	3	1966	20	54	68	136	100yr
2	13	12	1963	3	54	45	90	10yr-20yr
3	11	11	1970	19	24	43	86	5yr-10yr
4	23	3	1966	21	24	42	84	5yr-10yr
5	8	11	1984	10	24	41	82	5yr-10yr
6	14	9	1990	18	24	39	78	~5yr
7	10	3	1975	10	24	38	76	2yr-5yr
8	13	12	1963	2	24	34	68	2yr-5yr
9	11	11	1970	19	54	34	68	2yr-5yr
10	10	3	1975	15	24	33	66	2yr-5yr
11	10	3	1975	10	54	32	64	2yr-5yr
12	10	3	1975	11	24	32	64	2yr-5yr
13	8	11	1984	9	54	32	64	2yr-5yr
14	28	2	1970	1	24	30	60	~2yr
15	17	2	1993	9	24	30	60	~2yr
16	9	4	1973	6	54	29	58	1yr-2yr
17	13	12	1963	4	54	29	58	1yr-2yr
18	20	11	1988	23	24	29	58	1yr-2yr
19	21	3	1983	16	24	29	58	1yr-2yr
20	21	8	1971	9	54	29	58	1yr-2yr
21	31	8	1978	9	54	29	58	1yr-2yr
22	7	3	1994	0	54	29	58	1yr-2yr
23	10	6	2004	21	24	28	56	1yr-2yr
24	27	11	1985	15	24	28	56	1yr-2yr
25	27	3	1987	19	54	28	56	1yr-2yr
26	13	12	1963	2	54	28	56	1yr-2yr
27	4	3	1977	8	24	28	56	1yr-2yr
28	3	3	1978	2	24	28	56	1yr-2yr
29	13	12	1963	4	24	27	54	1yr-2yr
30	17	10	1976	22	54	27	54	1yr-2yr
31	5	8	1986	11	54	27	54	1yr-2yr
32	17	2	1993	9	54	27	54	1yr-2yr
33	22	1	1999	5	54	26	52	1yr-2yr
34	9	4	1973	7	24	26	52	1yr-2yr
35	27	11	1985	14	54	26	52	1yr-2yr
36	7	3	1994	0	24	26	52	1yr-2yr
37	13	12	1963	3	24	26	52	1yr-2yr
38	31	8	1978	10	24	26	52	1yr-2yr
39	6	8	1967	20	24	26	52	1yr-2yr
40	29	3	1975	16	24	25	50	1yr-2yr
41	4	3	1979	14	54	25	50	1yr-2yr
42	14	9	1993	1	24	25	50	1yr-2yr
43	1	3	1977	9	54	25	50	1yr-2yr
44	28	2	1970	0	54	25	50	1yr-2yr
45	8	1	1973	0	54	24	48	1yr-2yr
46	6	10	1978	3	54	24	48	1yr-2yr
47	5	12	1992	14	54	24	48	1yr-2yr
48	6	3	1970	20	24	24	48	1yr-2yr
49	8	1	1973	2	54	24	48	1yr-2yr

Rank	Date			Time		Depth(mm)	Intensity	ARI
1	23	3	1966	20	54	78	78	20yr-50yr
2	23	3	1966	21	54	78	78	20yr-50yr
3	10	3	1975	10	54	69	69	10yr-20yr
4	10	3	1975	11	54	63	63	10yr
5	13	12	1963	4	54	63	63	10yr
6	13	12	1963	3	54	61	61	5yr-10yr
7	11	11	1970	19	54	58	58	5yr-10yr
8	8	11	1984	10	54	57	57	5yr-10yr
9	8	11	1984	9	54	48	48	2yr-5yr
10	9	4	1973	7	54	48	48	2yr-5yr
11	14	9	1990	18	54	48	48	2yr-5yr
12	13	12	1963	2	54	46	46	2yr-5yr
13	17	2	1993	9	54	44	44	2yr-5yr
14	31	1	2001	2	54	43	43	2yr-5yr
15	5	8	1986	12	54	42	42	2yr
16	5	8	1986	11	54	42	42	2yr
17	24	1	1999	6	54	41	41	~2yr
18	24	1	1999	7	54	41	41	~2yr
19	13	5	2003	10	54	40	40	1yr-2yr
20	8	1	1973	3	54	40	40	1yr-2yr
21	11	3	1974	22	54	40	40	1yr-2yr
22	10	3	1975	15	54	39	39	1yr-2yr
23	31	8	1978	10	54	39	39	1yr-2yr
24	8	1	1973	4	54	39	39	1yr-2yr
25	4	2	1971	5	54	39	39	1yr-2yr
26	17	10	1976	23	54	38	38	1yr-2yr
27	7	3	1994	0	54	38	38	1yr-2yr
28	21	3	1983	16	54	38	38	1yr-2yr
29	13	4	2009	17	54	38	38	1yr-2yr
30	6	8	1967	20	54	38	38	1yr-2yr
31	31	1	2001	1	54	37	37	1yr-2yr
32	4	3	1977	8	54	37	37	1yr-2yr
33	14	9	1993	1	54	37	37	1yr-2yr
34	6	3	1970	20	54	37	37	1yr-2yr
35	28	2	1970	1	54	37	37	1yr-2yr
36	22	1	1999	6	54	36	36	1yr-2yr
37	11	3	1974	21	54	36	36	1yr-2yr
38	21	8	1971	9	54	36	36	1yr-2yr
39	24	10	1987	20	54	36	36	1yr-2yr
40	13	5	2003	9	54	36	36	1yr-2yr
41	21	8	1971	10	54	35	35	1yr-2yr
42	11	12	1984	19	54	35	35	1yr-2yr
43	7	3	1994	1	54	35	35	1yr-2yr
44	27	4	1966	6	54	35	35	1yr-2yr
45	8	1	1973	2	54	34	34	1yr-2yr
46	25	9	1995	5	54	34	34	1yr-2yr
47	11	11	1970	20	54	34	34	1yr-2yr
48	4	3	1979	14	54	34	34	1yr-2yr
49	17	10	1976	22	54	34	34	1yr-2yr

Rank	Date			Time		Depth(mm)	Intensity	ARI
1	13	12	1963	5	54	89	59.33	20yr-50yr
2	10	3	1975	11	54	88	58.67	20yr-50yr
3	13	12	1963	4	24	88	58.67	20yr-50yr
4	23	3	1966	22	24	79	52.67	10yr-20yr
5	23	3	1966	20	54	79	52.67	10yr-20yr
6	8	11	1984	10	24	73	48.67	10yr
7	10	3	1975	10	24	61	40.67	2yr-5yr
8	8	11	1984	11	54	60	40.00	2yr-5yr
9	11	11	1970	20	54	59	39.33	2yr-5yr
10	13	12	1963	2	54	59	39.33	2yr-5yr
11	11	11	1970	19	24	58	38.67	2yr-5yr
12	11	3	1974	23	54	58	38.67	2yr-5yr
13	8	1	1973	4	24	58	38.67	2yr-5yr
14	31	1	2001	2	54	56	37.33	2yr-5yr
15	11	3	1974	22	24	56	37.33	2yr-5yr
16	8	1	1973	5	54	54	36.00	2yr-5yr
17	28	2	1970	1	24	53	35.33	2yr-5yr
18	24	1	1999	8	54	53	35.33	2yr-5yr
19	17	2	1993	10	24	53	35.33	2yr-5yr
20	24	1	1999	7	24	52	34.67	2yr-5yr
21	21	3	1983	17	54	51	34.00	2yr-5yr
22	13	5	2003	10	24	51	34.00	2yr-5yr
23	10	3	1975	16	24	51	34.00	2yr-5yr
24	14	9	1990	19	24	50	33.33	2yr-5yr
25	31	1	2001	4	24	49	32.67	2yr-5yr
26	5	8	1986	13	24	49	32.67	2yr-5yr
27	31	8	1978	11	54	49	32.67	2yr-5yr
28	9	4	1973	8	54	49	32.67	2yr-5yr
29	9	4	1973	7	24	48	32.00	2yr
30	5	8	1986	11	54	48	32.00	2yr
31	30	4	1988	7	24	47	31.33	1yr-2yr
32	30	4	1988	8	54	47	31.33	1yr-2yr
33	27	4	1966	7	24	47	31.33	1yr-2yr
34	21	3	1983	16	24	46	30.67	1yr-2yr
35	7	3	1994	1	24	45	30.00	1yr-2yr
36	8	1	1973	2	54	44	29.33	1yr-2yr
37	22	1	1999	7	24	44	29.33	1yr-2yr
38	4	2	1971	5	54	43	28.67	1yr-2yr
39	13	5	2003	11	54	43	28.67	1yr-2yr
40	4	2	1971	7	24	42	28.00	1yr-2yr
41	13	4	2009	17	54	42	28.00	1yr-2yr
42	6	3	1970	22	24	42	28.00	1yr-2yr
43	6	8	1967	20	54	42	28.00	1yr-2yr
44	4	3	1977	8	54	42	28.00	1yr-2yr
45	10	4	1998	8	54	42	28.00	1yr-2yr
46	23	6	1976	17	54	42	28.00	1yr-2yr
47	23	6	1976	16	24	41	27.33	1yr-2yr
48	13	10	1973	8	54	41	27.33	1yr-2yr
49	14	9	1993	2	54	41	27.33	1yr-2yr

Rank	Date			Time		Depth(mm)	Intensity	ARI
1	13	12	1963	3	54	103	51.5	20yr-50yr
2	10	3	1975	11	54	96	48	20yr-50yr
3	13	12	1963	5	54	93	46.5	20yr
4	8	11	1984	11	54	88	44	10yr-20yr
5	23	3	1966	21	54	79	39.5	~10yr
6	8	11	1984	9	54	79	39.5	~10yr
7	23	3	1966	23	54	78	39	5yr-10yr
8	8	1	1973	5	54	77	38.5	5yr-10yr
9	8	1	1973	3	54	69	34.5	~5yr
10	11	3	1974	23	54	69	34.5	~5yr
11	10	3	1975	13	54	67	33.5	2yr-5yr
12	31	1	2001	3	54	65	32.5	2yr-5yr
13	30	4	1988	7	54	61	30.5	2yr-5yr
14	11	11	1970	21	54	59	29.5	2yr-5yr
15	27	4	1966	7	54	59	29.5	2yr-5yr
16	11	11	1970	19	54	59	29.5	2yr-5yr
17	17	2	1993	9	54	58	29	2yr-5yr
18	21	3	1983	17	54	58	29	2yr-5yr
19	28	2	1970	1	54	58	29	2yr-5yr
20	30	4	1988	9	54	57	28.5	2yr-5yr
21	5	8	1986	11	54	57	28.5	2yr-5yr
22	4	3	1977	9	54	56	28	2yr-5yr
23	5	8	1986	13	54	56	28	2yr-5yr
24	17	2	1993	11	54	56	28	2yr-5yr
25	24	1	1999	7	54	55	27.5	2yr-5yr
26	31	8	1978	11	54	55	27.5	2yr-5yr
27	24	1	1999	9	54	54	27	2yr-5yr
28	10	3	1975	15	54	53	26.5	2yr
29	13	5	2003	11	54	52	26	1yr-2yr
30	14	9	1990	19	54	50	25	1yr-2yr
31	9	4	1973	7	54	50	25	1yr-2yr
32	8	1	1973	1	54	50	25	1yr-2yr
33	10	4	1998	9	54	49	24.5	1yr-2yr
34	10	3	1975	17	54	49	24.5	1yr-2yr
35	9	4	1973	9	54	49	24.5	1yr-2yr
36	11	3	1974	21	54	48	24	1yr-2yr
37	10	6	1991	23	54	48	24	1yr-2yr
38	13	10	1973	9	54	48	24	1yr-2yr
39	14	9	1993	1	54	48	24	1yr-2yr
40	25	9	1995	7	54	48	24	1yr-2yr
41	26	2	1967	1	54	48	24	1yr-2yr
42	7	3	1994	1	54	48	24	1yr-2yr
43	24	10	1987	21	54	47	23.5	1yr-2yr
44	17	1	1972	5	54	47	23.5	1yr-2yr
45	22	1	1999	7	54	46	23	1yr-2yr
46	13	4	2009	19	54	46	23	1yr-2yr
47	31	1	1971	17	54	46	23	1yr-2yr
48	17	1	1972	3	54	46	23	1yr-2yr
49	4	2	1990	5	54	46	23	1yr-2yr

Rank	Date			Time		Depth(mm)	Intensity	ARI
1	13	12	1963	5	54	138	46.00	~100yr
2	8	11	1984	11	54	105	35.00	~20yr
3	10	3	1975	11	54	101	33.67	10yr-20yr
4	10	3	1975	14	54	100	33.33	10yr-20yr
5	8	1	1973	5	54	99	33.00	10yr-20yr
6	13	12	1963	8	54	96	32.00	10yr-20yr
7	30	4	1988	8	54	86	28.67	5yr-10yr
8	8	1	1973	2	54	84	28.00	5yr-10yr
9	11	3	1974	23	54	83	27.67	5yr-10yr
10	23	3	1966	23	54	79	26.33	~5yr
11	23	3	1966	20	54	79	26.33	~5yr
12	10	3	1975	17	54	77	25.67	2yr-5yr
13	31	1	2001	5	54	75	25.00	2yr-5yr
14	27	4	1966	8	54	75	25.00	2yr-5yr
15	4	3	1977	8	54	72	24.00	2yr-5yr
16	12	3	1974	2	54	71	23.67	2yr-5yr
17	13	12	1963	2	54	68	22.67	2yr-5yr
18	30	4	1988	11	54	68	22.67	2yr-5yr
19	31	1	2001	2	54	68	22.67	2yr-5yr
20	5	8	1986	14	54	67	22.33	2yr-5yr
21	8	1	1973	8	54	66	22.00	2yr-5yr
22	4	2	1990	8	54	64	21.33	2yr-5yr
23	14	11	1969	8	54	64	21.33	2yr-5yr
24	4	3	1977	11	54	64	21.33	2yr-5yr
25	31	8	1978	11	54	64	21.33	2yr-5yr
26	17	2	1993	11	54	64	21.33	2yr-5yr
27	24	10	1987	20	54	64	21.33	2yr-5yr
28	31	8	1978	14	54	64	21.33	2yr-5yr
29	20	2	1976	20	54	63	21.00	2yr-5yr
30	4	2	1990	5	54	63	21.00	2yr-5yr
31	21	3	1983	17	54	62	20.67	2yr-5yr
32	5	8	1986	11	54	62	20.67	2yr-5yr
33	11	11	1970	23	54	61	20.33	~2yr
34	17	1	1972	5	54	61	20.33	~2yr
35	11	11	1970	20	54	61	20.33	~2yr
36	25	9	1995	8	54	61	20.33	~2yr
37	9	4	1973	8	54	61	20.33	~2yr
38	24	1	1999	8	54	60	20.00	~2yr
39	10	6	1991	23	54	60	20.00	~2yr
40	8	11	1984	14	54	60	20.00	~2yr
41	13	4	2009	17	54	59	19.67	1yr-2yr
42	28	2	1970	2	54	59	19.67	1yr-2yr
43	11	6	1991	2	54	59	19.67	1yr-2yr
44	12	6	1991	2	54	59	19.67	1yr-2yr
45	24	10	1987	23	54	59	19.67	1yr-2yr
46	21	3	1983	20	54	58	19.33	1yr-2yr
47	17	1	1988	5	54	57	19.00	1yr-2yr
48	14	9	1993	2	54	57	19.00	1yr-2yr
49	16	10	1972	14	54	56	18.67	1yr-2yr

Rank	Date			Time		Depth(mm)	Intensity	ARI
1	17	2	1993	9	30	58	116	~50yr
2	26	1	1991	15	0	52	104	~20yr
3	26	1	1991	15	30	48	96	10yr-20yr
4	10	4	1998	10	30	44	88	10yr
5	14	9	1993	1	0	38	76	5yr
6	10	4	1998	11	0	37	74	~5yr
7	17	2	1993	9	0	33	66	2yr-5yr
8	10	4	1998	7	30	33	66	2yr-5yr
9	9	4	1998	18	30	32	64	2yr-5yr
10	26	2	2006	21	0	32	64	2yr-5yr
11	10	4	1998	8	0	30	60	2yr-5yr
12	10	4	1998	17	0	29	58	2yr
13	15	2	1991	21	30	29	58	2yr
14	7	9	2006	6	0	29	58	2yr
15	17	2	1993	10	0	28	56	1yr-2yr
16	9	6	2007	7	0	26	52	1yr-2yr
17	13	4	1994	20	0	26	52	1yr-2yr
18	15	2	1991	21	0	26	52	1yr-2yr
19	17	1	2001	21	30	25	50	1yr-2yr
20	7	9	2006	5	30	24	48	1yr-2yr
21	17	1	2001	22	0	24	48	1yr-2yr
22	7	12	2007	16	0	24	48	1yr-2yr
23	3	12	2007	13	30	24	48	1yr-2yr
24	5	5	2001	15	0	24	48	1yr-2yr
25	14	9	1993	0	30	23	46	1yr-2yr
26	9	2	1992	3	0	23	46	~1yr
27	26	2	2006	21	30	22	44	~1yr
28	5	5	2001	14	30	22	44	~1yr
29	16	1	2006	4	30	22	44	~1yr
30	19	5	1998	3	30	22	44	~1yr
31	7	3	1994	5	0	22	44	~1yr
32	6	12	2007	8	0	21	42	<1yr
33	10	4	1998	17	30	21	42	<1yr
34	7	3	1994	4	30	20	40	<1yr
35	7	12	2007	15	30	20	40	<1yr
36	10	4	1998	16	30	20	40	<1yr
37	15	8	2006	16	30	20	40	<1yr
38	6	5	2001	8	30	20	40	<1yr
39	13	4	1994	20	30	19	38	<1yr
40	15	6	2007	0	0	19	38	<1yr
41	6	5	2001	9	0	19	38	<1yr
42	19	11	2001	2	30	18	36	<1yr
43	10	6	2004	21	30	18	36	<1yr
44	7	3	1993	21	30	18	36	<1yr
45	31	1	2001	3	30	18	36	<1yr
46	11	12	2007	23	0	18	36	<1yr
47	27	11	2007	3	0	18	36	<1yr
48	7	3	1993	22	0	18	36	<1yr
49	23	3	2003	22	30	18	36	<1yr

Rank	Date			Time		Depth(mm)	Intensity	ARI
1	17	2	1993	10	0	72	72	20yr
2	26	1	1991	16	0	54	54	5yr
3	26	1	1991	15	0	52	52	~5yr
4	10	4	1998	8	0	48	48	2yr-5yr
5	14	9	1993	1	0	47	47	2yr-5yr
6	10	4	1998	11	0	45	45	2yr-5yr
7	14	9	1993	2	0	44	44	2yr-5yr
8	10	4	1998	17	0	44	44	2yr-5yr
9	10	4	1998	18	0	44	44	2yr-5yr
10	15	2	1991	22	0	43	43	2yr-5yr
11	10	4	1998	9	0	42	42	2yr-5yr
12	26	2	2006	22	0	40	40	2yr
13	17	2	1993	9	0	38	38	1yr-2yr
14	26	2	2006	21	0	38	38	1yr-2yr
15	17	2	1993	11	0	38	38	1yr-2yr
16	10	4	1998	12	0	38	38	1yr-2yr
17	7	9	2006	6	0	38	38	1yr-2yr
18	9	6	2007	7	0	36	36	1yr-2yr
19	13	4	1994	21	0	34	34	1yr-2yr
20	9	4	1998	19	0	34	34	1yr-2yr
21	9	2	1992	4	0	34	34	1yr-2yr
22	7	9	2006	7	0	34	34	1yr-2yr
23	31	1	2001	4	0	34	34	1yr-2yr
24	5	5	2001	16	0	32	32	1yr-2yr
25	5	5	2001	15	0	32	32	1yr-2yr
26	9	6	2007	8	0	32	32	1yr-2yr
27	9	2	1992	3	0	32	32	1yr-2yr
28	31	1	2001	3	0	31	31	1yr-2yr
29	13	4	1994	20	0	30	30	~1yr
30	6	5	2001	9	0	30	30	~1yr
31	19	5	1998	4	0	29	29	<1yr
32	10	4	2001	4	0	28	28	<1yr
33	13	10	1999	6	0	28	28	<1yr
34	4	2	2002	19	0	28	28	<1yr
35	4	2	2002	18	0	27	27	<1yr
36	10	4	2001	3	0	27	27	<1yr
37	23	3	2003	23	0	26	26	<1yr
38	7	12	2007	16	0	26	26	<1yr
39	15	2	1991	21	0	26	26	<1yr
40	6	5	2001	10	0	26	26	<1yr
41	9	2	1992	13	0	26	26	<1yr
42	16	6	2007	17	0	26	26	<1yr
43	17	1	2001	22	0	26	26	<1yr
44	7	12	2007	17	0	26	26	<1yr
45	9	2	1992	12	0	25	25	<1yr
46	27	11	2007	4	0	25	25	<1yr
47	7	3	1993	22	0	25	25	<1yr
48	9	2	1992	18	0	25	25	<1yr
49	3	12	2007	14	0	24	24	<1yr

Rank	Date			Time		Depth(mm)	Intensity	ARI
1	17	2	1993	10	30	83	55.33	20yr
2	10	4	1998	9	0	58	38.67	2yr-5yr
3	10	4	1998	18	0	56	37.33	2yr-5yr
4	26	1	1991	16	30	54	36.00	2yr-5yr
5	26	1	1991	15	0	52	34.67	2yr-5yr
6	14	9	1993	1	30	52	34.67	2yr-5yr
7	15	2	1991	22	30	46	30.67	2yr
8	17	2	1993	9	0	46	30.67	2yr
9	10	4	1998	12	0	46	30.67	2yr
10	14	9	1993	3	0	44	29.33	1yr-2yr
11	10	4	1998	10	30	44	29.33	1yr-2yr
12	31	1	2001	3	0	43	28.67	1yr-2yr
13	26	2	2006	22	30	42	28.00	1yr-2yr
14	7	9	2006	7	30	42	28.00	1yr-2yr
15	7	9	2006	6	0	42	28.00	1yr-2yr
16	9	6	2007	7	30	42	28.00	1yr-2yr
17	31	1	2001	4	30	41	27.33	1yr-2yr
18	9	2	1992	4	30	40	26.67	1yr-2yr
19	17	2	1993	12	0	40	26.67	1yr-2yr
20	5	5	2001	16	30	39	26.00	1yr-2yr
21	13	4	1994	21	0	38	25.33	1yr-2yr
22	26	2	2006	21	0	38	25.33	1yr-2yr
23	4	2	2002	19	30	38	25.33	1yr-2yr
24	10	4	1998	7	30	38	25.33	1yr-2yr
25	9	4	1998	19	30	38	25.33	1yr-2yr
26	19	5	1998	4	30	37	24.67	1yr-2yr
27	13	10	1999	6	0	36	24.00	1yr
28	10	4	1998	19	30	36	24.00	1yr
29	9	2	1992	3	0	36	24.00	1yr
30	4	2	2002	18	0	36	24.00	1yr
31	15	6	2007	0	0	36	24.00	1yr
32	13	10	1999	7	30	36	24.00	1yr
33	7	3	1994	6	0	34	22.67	<1yr
34	6	5	2001	9	0	34	22.67	<1yr
35	9	6	2007	9	0	33	22.00	<1yr
36	6	5	2001	10	30	32	21.33	<1yr
37	9	2	1992	18	0	32	21.33	<1yr
38	24	3	2003	0	0	32	21.33	<1yr
39	5	5	2001	15	0	32	21.33	<1yr
40	9	2	1992	13	30	32	21.33	<1yr
41	7	9	2006	1	30	30	20.00	<1yr
42	10	4	2001	4	30	30	20.00	<1yr
43	8	11	1999	18	0	30	20.00	<1yr
44	7	9	2006	0	0	29	19.33	<1yr
45	7	8	1998	21	0	28	18.67	<1yr
46	24	1	1999	7	30	28	18.67	<1yr
47	9	2	1992	12	0	28	18.67	<1yr
48	4	2	2002	9	0	28	18.67	<1yr
49	7	3	1993	22	30	28	18.67	<1yr

Rank	Date			Time		Depth(mm)	Intensity	ARI
1	17	2	1993	10	0	87	43.5	~20yr
2	17	2	1993	12	0	87	43.5	~20yr
3	10	4	1998	10	0	64	32	~5yr
4	10	4	1998	18	0	60	30	2yr-5yr
5	10	4	1998	20	0	58	29	2yr-5yr
6	14	9	1993	2	0	56	28	2yr-5yr
7	26	1	1991	16	0	54	27	2yr-5yr
8	26	1	1991	18	0	54	27	2yr-5yr
9	10	4	1998	8	0	52	26	2yr-5yr
10	31	1	2001	4	0	49	24.5	~2yr
11	10	4	1998	12	0	48	24	~1yr
12	16	2	1991	0	0	47	23.5	~1yr
13	15	2	1991	22	0	46	23	1yr-2yr
14	9	2	1992	4	0	46	23	1yr-2yr
15	9	2	1992	6	0	46	23	1yr-2yr
16	7	9	2006	8	0	46	23	1yr-2yr
17	27	2	2006	0	0	45	22.5	1yr-2yr
18	4	2	2002	20	0	45	22.5	1yr-2yr
19	7	9	2006	6	0	44	22	1yr-2yr
20	9	6	2007	8	0	44	22	1yr-2yr
21	14	9	1993	4	0	44	22	1yr-2yr
22	26	2	2006	22	0	44	22	1yr-2yr
23	19	5	1998	4	0	44	22	1yr-2yr
24	7	3	1994	8	0	42	21	1yr-2yr
25	5	5	2001	18	0	42	21	1yr-2yr
26	5	5	2001	16	0	41	20.5	1yr-2yr
27	7	3	1994	6	0	40	20	1yr-2yr
28	9	4	1998	20	0	40	20	1yr-2yr
29	13	4	1994	22	0	40	20	1yr-2yr
30	31	1	2001	6	0	39	19.5	~1yr
31	10	4	2001	6	0	39	19.5	~1yr
32	10	4	1998	14	0	38	19	~1yr
33	6	5	2001	10	0	38	19	~1yr
34	15	6	2007	2	0	38	19	~1yr
35	13	10	1999	8	0	38	19	~1yr
36	8	11	1999	18	0	38	19	~1yr
37	8	11	1999	20	0	38	19	~1yr
38	19	5	1998	6	0	38	19	~1yr
39	4	2	2002	18	0	38	19	~1yr
40	13	10	1999	6	0	38	19	~1yr
41	27	11	2007	6	0	38	19	~1yr
42	15	6	2007	0	0	38	19	~1yr
43	9	2	1992	18	0	37	18.5	<1yr
44	9	2	1992	20	0	37	18.5	<1yr
45	9	2	1992	14	0	36	18	<1yr
46	10	4	2001	4	0	36	18	<1yr
47	7	9	2006	2	0	36	18	<1yr
48	24	3	2003	0	0	35	17.5	<1yr
49	9	2	1992	12	0	34	17	<1yr

Rank	Date			Time		Depth(mm)	Intensity	ARI
			Year	Hour	Minute			
1	17	2	1993	12	0	98	32.67	10yr-20yr
2	10	4	1998	12	0	78	26.00	5yr
3	10	4	1998	9	0	64	21.33	2yr-5yr
4	10	4	1998	21	0	63	21.00	2yr-5yr
5	10	4	1998	18	0	62	20.67	2yr-5yr
6	10	4	2001	6	0	58	19.33	2yr
7	14	9	1993	3	0	57	19.00	2yr
8	9	2	1992	6	0	56	18.67	1yr-2yr
9	31	1	2001	6	0	55	18.33	1yr-2yr
10	26	1	1991	18	0	54	18.00	1yr-2yr
11	10	4	1998	15	0	53	17.67	1yr-2yr
12	26	1	1991	15	0	52	17.33	1yr-2yr
13	19	5	1998	6	0	52	17.33	1yr-2yr
14	4	2	2002	21	0	52	17.33	1yr-2yr
15	7	9	2006	9	0	50	16.67	1yr-2yr
16	27	2	2006	0	0	50	16.67	1yr-2yr
17	16	2	1991	0	0	50	16.67	1yr-2yr
18	17	2	1993	15	0	50	16.67	1yr-2yr
19	9	6	2007	9	0	50	16.67	1yr-2yr
20	9	2	1992	3	0	49	16.33	1yr-2yr
21	31	1	2001	3	0	48	16.00	1yr-2yr
22	27	11	2007	6	0	48	16.00	1yr-2yr
23	17	2	1993	9	0	48	16.00	1yr-2yr
24	7	9	2006	3	0	47	15.67	1yr-2yr
25	4	2	2002	18	0	46	15.33	1yr-2yr
26	7	3	1994	9	0	46	15.33	1yr-2yr
27	7	9	2006	6	0	46	15.33	1yr-2yr
28	14	9	1993	6	0	46	15.33	1yr-2yr
29	6	5	2001	9	0	46	15.33	1yr-2yr
30	31	8	1996	6	0	46	15.33	1yr-2yr
31	13	10	1999	6	0	46	15.33	1yr-2yr
32	13	10	1999	9	0	46	15.33	1yr-2yr
33	5	5	2001	18	0	45	15.00	~1yr
34	9	2	1992	15	0	45	15.00	~1yr
35	4	2	2002	9	0	44	14.67	<1yr
36	6	5	2001	12	0	44	14.67	<1yr
37	13	4	1994	21	0	44	14.67	<1yr
38	4	2	2002	12	0	42	14.00	<1yr
39	9	2	1992	12	0	42	14.00	<1yr
40	24	3	2003	3	0	42	14.00	<1yr
41	14	5	2003	12	0	42	14.00	<1yr
42	9	2	1992	21	0	41	13.67	<1yr
43	15	6	2007	3	0	41	13.67	<1yr
44	9	4	1998	21	0	41	13.67	<1yr
45	21	10	2004	6	0	40	13.33	<1yr
46	7	3	1994	6	0	40	13.33	<1yr
47	7	8	1998	21	0	40	13.33	<1yr
48	16	6	2007	3	0	40	13.33	<1yr
49	8	11	1999	21	0	40	13.33	<1yr