

## Supplementary Materials A. Lake Locations and Maximum Extents

Lake (#)	UTM 22 E (m)	UTM 22 N (m)	Elev. a.s.l (m)	A <sub>max</sub> * (km <sup>2</sup> )	Year
1	581481.59	7741750.60	1372	5.32	2011
2	590260.55	7740418.08	1450	1.29	2011
3	597079.92	7740182.93	1533	0.79	2011
4	590260.55	7738144.95	1432	0.65	2011
5	575837.97	7737831.42	1295	1.80	2011
6	583127.64	7736890.81	1367	1.08	2009
7	602645.16	7735558.29	1562	0.86	2011
8	575759.58	7735636.68	1298	0.58	2011
9	581638.35	7734774.46	1363	3.81	2010
10	590966.00	7733833.85	1437	2.30	2011
11	572859.39	7734539.31	1271	0.93	2011
12	585949.45	7734069.00	1385	0.58	2011
13	580384.22	7731090.43	1338	3.09	2010
14	576386.65	7730698.51	1295	0.65	2011
15	571370.10	7729679.52	1250	1.29	2006
16	585949.45	7729052.45	1375	3.52	2011
17	572937.77	7728033.47	1253	0.72	2009
18	567215.77	7727563.17	1212	1.08	2011
19	563296.59	7727719.93	1176	0.93	2011
20	585871.07	7726622.56	1380	2.08	2011
21	562512.76	7726700.95	1172	0.79	2009
22	570978.18	7725054.89	1219	3.09	2009
23	566980.62	7724898.12	1201	1.08	2011
24	566040.02	7722781.77	1186	1.01	2011
25	566040.02	7722860.15	1185	0.22	2011
26	563139.83	7721527.63	1155	0.86	2007
27	584381.78	7720900.56	1330	3.59	2011
28	577248.87	7720900.56	1269	2.44	2011
29	565334.57	7720900.56	1163	0.36	2011
30	551695.82	7720195.11	965	2.16	2009
31	554674.40	7720273.49	1043	0.29	2011
32	561101.85	7719803.19	1119	0.97	2011
33	569880.81	7719097.74	1172	2.08	2009
34	556085.30	7718784.20	1056	0.86	2011
35	564629.11	7718705.82	1143	1.15	2011
36	553655.41	7717921.98	1011	0.36	2011
37	549265.93	7717059.76	925	1.87	2009
38	571056.57	7716667.85	1188	0.86	2011
39	559142.26	7716275.93	1090	1.37	2011
40	554987.93	7716589.46	1038	0.58	2011
41	552793.19	7715962.39	989	0.86	2006
42	551147.14	7715492.09	976	0.58	2011
43	573094.54	7715021.79	1182	1.80	2011
44	560866.70	7714629.87	1094	1.15	2011
45	570586.27	7713924.42	1161	1.65	2011
46	564472.35	7712513.52	1093	1.15	2011
47	547071.19	7712513.52	882	1.22	2009
48	539467.98	7711181.00	601	0.72	2009
49	566118.40	7710867.46	1102	1.22	2011
50	569959.20	7710005.24	1123	1.94	2011
51	559534.18	7710240.39	1046	0.43	2011
52	553106.72	7709926.86	956	0.72	2011

**Supplementary Materials A. Lake Locations and Maximum Extents (cont.)**

Lake (#)	UTM 22 E (m)	UTM 22 N (m)	Elev. a.s.l (m)	A <sub>max</sub> * (km <sup>2</sup> )	Year
53	545033.21	7709926.86	788	1.22	2006
54	557261.06	7709848.47	1030	0.41	2011
55	551068.75	7709221.41	933	0.58	2011
56	544092.61	7708594.34	758	0.86	2009
57	563139.83	7708124.03	1052	0.79	2011
58	555693.38	7707732.12	991	0.20	2011
59	553733.79	7707418.58	958	0.50	2011
60	547306.34	7707026.66	817	0.43	2011
61	539703.13	7705772.53	598	1.37	2007
62	555928.53	7705850.91	953	0.57	2011
63	553890.56	7705537.38	916	0.86	2011
64	550755.22	7705223.84	889	0.22	2011
65	557652.97	7705145.46	965	0.50	2011
66	536254.25	7703969.70	503	1.37	2010
67	563688.51	7703656.17	971	0.65	2011
68	557731.36	7703656.17	944	1.58	2009
69	537665.16	7702558.80	535	0.58	2009
70	530610.63	7702245.27	394	1.01	2011
71	554752.78	7701931.73	905	0.29	2011
72	529199.73	7701696.58	369	0.65	2011
73	561101.85	7701304.66	946	0.43	2011
74	550363.30	7700912.74	824	0.33	2011
75	540408.58	7700912.74	567	1.15	2011
76	553733.79	7699109.92	818	0.29	2011
77	547933.41	7699031.54	768	0.32	2011
78	545581.90	7698718.00	730	0.36	2011

\*A<sub>max</sub> here is the 10-year maximum extent, not to be confused with the A<sub>max</sub> for individual years used in identifying drainages (see 2.5).

**Supplementary Materials B. Rapid Drainage Events (see 2.5)**

#	Day	±	A (km <sup>2</sup> )	#	Day	±	A (km <sup>2</sup> )
<b>2002</b>				<b>2004</b>			
9	196.1	1.5	0.54	2	234.1	0.5	0.54
19	185.6	3.0	1.01	6	202.1	0.5	1.01
24	185.6	3.0	0.16	12	233.1	0.5	0.16
27	196.1	1.5	1.40	14	234.1	0.5	0.16
38	185.6	3.0	0.70	18	177.6	1.0	0.16
43	185.6	3.0	0.85	22	196.6	3.0	2.48
45	185.6	3.0	0.54	24	176.6	2.0	0.31
47	166.6	2.0	0.23	28	182.6	3.0	0.16
53	166.3	1.7	0.23	29	178.1	0.5	0.23
56	181.6	1.0	0.16	30	200.6	1.0	1.40
76	185.6	3.0	0.31	31	176.3	2.3	0.24
<b>2003</b>				40	174.6	2.0	0.23
1	181.1	2.5	1.63	42	175.6	3.0	0.47
6	181.1	2.5	0.93	48	174.8	0.8	0.35
10	181.1	2.5	0.31	50	196.6	3.0	0.93
12	181.1	2.5	0.39	52	174.1	1.5	0.16
16	181.2	2.5	0.47	53	200.6	1.0	1.16
20	181.2	2.5	1.47	54	201.1	1.5	0.31
24	163.1	1.5	0.16	55	174.6	2.0	0.31
31	164.6	2.0	0.31	56	175.1	0.5	0.78
32	181.1	2.5	1.01	58	174.8	2.8	0.13
33	163.1	1.5	0.85	60	175.1	0.5	0.16
39	181.1	2.5	0.85	61	200.6	1.0	1.47
41	165.6	3.0	0.39	62	175.3	1.3	0.32
42	164.1	1.5	0.23	65	175.1	2.5	0.31
44	181.2	2.5	0.62	66	256.6	2.0	1.09
45	191.6	2.0	1.71	69	152.1	0.5	0.16
48	177.1	1.5	0.31	70	257.6	3.0	1.09
50	181.1	2.5	0.23	71	176.1	1.5	0.23
53	177.6	1.0	0.70	72	260.1	0.5	0.70
56	177.6	1.0	0.54	74	174.2	1.5	0.16
60	165.1	0.5	0.16	75	200.6	1.0	1.09
61	177.6	1.0	1.47	76	175.6	1.0	0.16
62	164.1	1.5	0.16	78	175.2	2.5	0.39
63	181.1	2.5	0.93	<b>2005</b>			
66	177.6	1.0	1.16	6	218.1	0.5	0.16
69	177.6	1.0	0.31	13	218.1	0.5	0.16
70	177.6	1.0	1.09	16	218.1	0.5	0.23
75	177.6	1.0	1.24	24	169.6	2.0	0.16
76	185.1	1.5	0.16	34	169.6	2.0	0.31
77	160.1	2.5	0.31	35	179.1	1.5	0.16

**Supplementary Materials B. Rapid Drainage Events (cont.)**

#	Day	±	A (km <sup>2</sup> )	#	Day	±	A (km <sup>2</sup> )
<b>2005 (cont.)</b>				<b>2007</b>			
<b>36</b>	166.6	1.0	0.23	<b>4</b>	201.6	3.0	0.70
<b>40</b>	169.1	1.5	0.23	<b>6</b>	201.6	3.0	0.93
<b>47</b>	168.1	2.5	0.31	<b>12</b>	205.1	0.5	0.31
<b>48</b>	166.3	0.7	0.47	<b>14</b>	201.6	3.0	0.70
<b>53</b>	166.3	0.7	1.01	<b>19</b>	241.1	1.5	0.31
<b>56</b>	166.3	0.7	0.62	<b>21</b>	241.1	1.5	0.16
<b>60</b>	166.6	1.0	0.47	<b>24</b>	241.1	1.5	1.09
<b>61</b>	166.3	0.7	1.32	<b>30</b>	241.1	1.5	1.78
<b>65</b>	172.1	0.5	0.23	<b>34</b>	241.1	1.5	0.93
<b>70</b>	221.1	0.5	1.09	<b>36</b>	241.1	1.5	0.31
<b>71</b>	168.6	3.0	0.31	<b>37</b>	241.1	1.5	0.93
<b>73</b>	168.8	1.8	0.17	<b>40</b>	241.1	1.5	0.16
<b>74</b>	168.1	2.5	0.23	<b>45</b>	201.6	3.0	0.54
<b>76</b>	166.6	1.0	0.16	<b>47</b>	241.1	1.5	0.47
<b>77</b>	168.2	2.5	0.23	<b>53</b>	241.1	1.5	0.78
<b>78</b>	166.3	0.7	0.16	<b>70</b>	226.6	3.0	1.09
<b>2006</b>				<b>2008</b>			
<b>2</b>	216.1	2.5	0.54	<b>1</b>	226.8	2.8	1.13
<b>8</b>	216.1	2.5	0.47	<b>2</b>	226.8	2.8	0.45
<b>16</b>	216.1	2.5	0.47	<b>9</b>	203.3	2.3	0.86
<b>26</b>	208.8	2.2	0.93	<b>12</b>	199.3	0.3	0.15
<b>29</b>	208.8	2.2	0.16	<b>16</b>	226.8	2.8	0.62
<b>30</b>	215.8	2.2	0.85	<b>20</b>	224.3	0.3	0.23
<b>32</b>	208.8	2.2	0.85	<b>26</b>	202.6	3.0	0.62
<b>39</b>	220.8	2.8	1.22	<b>28</b>	203.3	2.3	0.48
<b>41</b>	215.8	2.2	0.93	<b>30</b>	188.6	1.0	1.09
<b>42</b>	215.8	2.2	0.47	<b>33</b>	199.6	2.0	0.54
<b>48</b>	215.8	2.2	0.62	<b>34</b>	212.7	1.0	0.23
<b>50</b>	218.3	0.3	0.39	<b>40</b>	175.6	1.0	0.16
<b>53</b>	192.1	2.5	1.32	<b>42</b>	169.6	2.0	0.16
<b>56</b>	191.6	3.0	0.85	<b>47</b>	188.6	1.0	0.23
<b>58</b>	212.1	1.5	0.16	<b>48</b>	166.1	1.5	0.47
<b>61</b>	215.8	2.2	1.47	<b>51</b>	183.6	1.0	0.16
<b>63</b>	212.1	1.5	0.70	<b>52</b>	188.6	1.0	0.54
<b>66</b>	191.6	3.0	1.24	<b>56</b>	188.6	1.0	0.70
<b>71</b>	221.1	2.5	0.16	<b>58</b>	176.3	0.3	0.13
<b>72</b>	156.6	2.0	0.23	<b>59</b>	177.8	1.8	0.23
<b>73</b>	216.1	2.5	0.16	<b>60</b>	167.3	0.3	0.13
<b>74</b>	191.6	3.0	0.31	<b>61</b>	188.6	1.0	1.40
<b>75</b>	191.6	3.0	1.16	<b>62</b>	177.8	1.8	0.27
<b>78</b>	191.6	3.0	0.31	<b>63</b>	199.8	1.2	0.62

**Supplementary Materials B. Rapid Drainage Events (cont.)**

#	Day	±	A (km <sup>2</sup> )	#	Day	±	A (km <sup>2</sup> )
<b>2008 (cont.)</b>				<b>2010 (cont.)</b>			
65	177.6	2.0	0.23	27	201.1	1.5	0.70
67	203.3	2.3	0.33	37	147.6	2.0	0.23
68	199.6	2.0	1.16	40	162.8	2.2	0.39
70	188.6	1.0	1.01	41	150.6	1.0	0.39
71	188.6	1.0	0.16	42	155.8	2.2	0.39
72	164.8	2.2	0.16	45	185.1	1.5	0.16
73	188.1	1.5	0.31	49	149.6	0.0	0.16
74	181.1	2.5	0.31	50	159.3	1.3	0.16
76	177.2	2.5	0.23	52	162.8	2.2	0.39
77	169.6	2.0	0.16	53	147.3	1.7	0.93
<b>2009</b>				55	162.8	2.2	0.23
2	204.8	1.8	0.34	62	150.6	1.0	0.23
4	200.1	0.5	0.23	65	149.3	0.3	0.17
10	206.6	3.0	0.39	69	147.6	2.0	0.23
12	199.6	2.0	0.31	70	147.3	1.7	0.70
13	200.3	2.7	1.55	71	149.3	0.3	0.13
16	204.8	1.8	0.32	73	151.6	2.0	0.23
24	198.7	1.0	0.23	74	152.2	2.5	0.16
25	201.6	2.0	0.23	77	148.6	3.0	0.16
32	198.7	1.0	0.85	78	152.6	1.0	0.16
33	208.1	1.5	2.25	<b>2011</b>			
35	208.1	1.5	1.16	7	221.1	0.5	0.93
48	201.3	1.7	0.78	23	177.1	1.5	0.47
55	200.1	0.5	0.23	29	175.1	0.5	0.16
56	201.3	1.7	0.93	30	181.8	2.2	1.16
61	200.3	2.7	1.47	31	175.6	1.0	0.16
63	198.7	1.0	0.78	32	177.1	2.5	0.47
65	167.1	0.5	0.16	37	171.6	3.0	0.62
68	209.1	1.5	1.71	40	181.6	2.0	0.62
70	200.7	1.0	0.62	51	175.6	1.0	0.23
74	203.6	0.0	0.16	52	181.6	2.0	0.70
75	201.8	1.2	1.24	55	181.6	2.0	0.31
76	200.7	1.0	0.16	57	176.1	0.5	0.85
<b>2010</b>				64	181.6	2.0	0.23
2	201.1	1.5	0.62	67	186.8	2.8	0.39
4	201.1	1.5	0.31	68	186.8	2.8	1.17
5	201.1	1.5	0.85	70	162.6	1.0	0.78
10	201.1	1.5	0.39	71	181.6	3.0	0.23
18	190.8	0.8	0.24	72	162.6	1.0	0.16
22	225.1	0.5	0.62	75	162.6	1.0	1.24
				76	186.8	2.8	0.18