

Table 6.1 Ranked Monthly FDD Accumulations at Duluth, MN.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
1	1926	58.	1960	400.	1984	937.	1912	1217.	1936	985.	1923	574.	1950	99.	1
2	1918	52.	1986	386.	1986	900.	1982	1094.	1904	895.	1899	524.	1907	34.	2
3	1906	41.	1996	344.	1925	878.	1929	1071.	1917	848.	1965	504.	1975	29.	3
4	1914	41.	1956	331.	1990	864.	1994	1059.	1914	821.	1950	488.	1920	9.	4
5	1977	31.	1997	331.	1918	857.	1966	1030.	1989	797.	1955	481.	1909	-4.	5
6	1920	29.	1952	319.	2001	854.	1977	995.	1967	792.	1913	468.	1972	-36.	6
7	1937	25.	1920	319.	1977	851.	1972	986.	1979	754.	1960	463.	1928	-38.	7
8	1989	24.	1912	319.	1928	823.	1979	977.	1988	747.	1932	455.	1917	-38.	8
9	1924	23.	1951	306.	1920	819.	1971	976.	1923	745.	1972	439.	1936	-40.	9
10	1912	20.	1977	295.	1959	801.	1918	970.	1972	743.	1943	434.	1914	-50.	10
11	1997	19.	1992	294.	1973	770.	1950	970.	1913	738.	1975	430.	1956	-52.	11
12	1994	19.	1948	293.	1951	751.	1963	965.	1900	733.	1951	430.	1996	-62.	12
13	1907	18.	1930	292.	1965	734.	1957	956.	1965	731.	1984	429.	1962	-65.	13
14	1985	18.	1927	286.	1956	731.	1924	956.	1916	722.	2002	420.	1904	-67.	14
15	1952	16.	1922	286.	1934	727.	1930	929.	1939	722.	1912	416.	1979	-72.	15
16	1934	16.	1979	283.	1917	722.	1959	925.	1899	718.	1906	416.	1966	-81.	16
17	1943	13.	1936	265.	1915	702.	1996	923.	1994	711.	1904	410.	1953	-86.	17
18	1927	11.	1990	259.	1964	695.	1970	918.	1933	709.	1916	407.	1995	-88.	18
19	1955	11.	1937	252.	1904	693.	1907	914.	1929	704.	1989	401.	1939	-94.	19
20	1992	11.	1934	252.	1979	680.	1936	911.	1963	698.	1956	392.	1983	-95.	20
21	1933	11.	1928	252.	1927	677.	1920	900.	1962	686.	1926	391.	1961	-99.	21
22	1909	9.	1911	245.	1935	661.	1917	893.	1922	682.	1996	387.	1982	-112.	22
23	1942	7.	1987	241.	1952	653.	1962	891.	1949	679.	1964	380.	1997	-113.	23
24	1931	7.	1933	241.	1997	651.	1937	887.	1912	675.	1980	380.	1935	-113.	24
25	1950	5.	1983	239.	1978	644.	1954	871.	2001	674.	1954	369.	1947	-124.	25
26	1935	5.	1904	239.	1974	634.	1904	857.	1910	662.	1949	365.	1945	-128.	26
27	1929	5.	1941	229.	1981	632.	1976	846.	1970	661.	1934	358.	1918	-130.	27
28	1973	4.	1898	229.	1923	628.	1988	839.	1968	657.	1974	355.	1992	-131.	28
29	1993	4.	1978	227.	1976	626.	1911	839.	1905	648.	1940	355.	1933	-135.	29
30	1940	4.	1957	225.	1946	626.	1978	835.	1934	635.	1982	347.	1924	-139.	30
31	1919	4.	1994	224.	1969	625.	1965	833.	1959	628.	1970	338.	1954	-140.	31
32	1913	2.	1965	223.	1933	619.	1916	833.	1980	617.	1952	338.	1967	-148.	32
33	1953	0.	1998	222.	1910	612.	1935	832.	1948	614.	1900	331.	1951	-148.	33
34	1954	0.	1939	218.	1996	611.	1951	830.	1955	612.	1969	329.	1926	-149.	34
35	1956	0.	1901	214.	1943	610.	1943	819.	1946	610.	1944	320.	1989	-151.	35
36	1957	0.	1944	205.	1961	608.	1905	819.	1956	610.	1971	317.	1922	-151.	36
37	1958	0.	1973	205.	1950	607.	1974	817.	1958	605.	1957	315.	1940	-153.	37
38	1959	0.	1967	203.	1991	600.	1991	810.	1947	603.	1976	311.	1937	-153.	38
39	1960	0.	1959	202.	1971	599.	1997	803.	1978	601.	1937	299.	1944	-155.	39
40	1961	0.	1938	189.	1926	598.	1913	796.	1982	601.	1939	292.	2002	-164.	40
41	1962	0.	1899	187.	1911	596.	1985	791.	1918	596.	1979	279.	1934	-164.	41
42	1963	0.	1970	184.	1962	594.	1948	787.	1901	592.	1908	277.	1993	-165.	42
43	1964	0.	1966	182.	1985	584.	1984	773.	1906	590.	1948	274.	1923	-166.	43
44	1965	0.	1947	182.	1967	576.	1969	761.	1974	590.	1917	272.	1932	-171.	44
45	1966	0.	1976	178.	1963	576.	1952	760.	1957	583.	1914	268.	1959	-171.	45
46	1967	0.	1917	173.	1899	574.	1927	758.	1996	580.	1997	263.	1916	-173.	46
47	1968	0.	2001	173.	1930	572.	1961	749.	1898	578.	1919	248.	1974	-176.	47
48	1969	0.	1968	173.	1989	567.	1940	742.	1986	575.	1936	248.	1965	-178.	48
49	1970	0.	1971	171.	1938	567.	1938	725.	1907	574.	1933	247.	1911	-184.	49
50	1971	0.	1925	167.	1949	563.	1980	724.	1985	573.	1941	239.	1943	-185.	50
51	1972	0.	1958	166.	1947	562.	1922	722.	1920	569.	1962	239.	1905	-187.	51
52	1974	0.	1946	153.	1898	553.	1968	711.	1995	563.	1947	234.	1971	-187.	52
53	1975	0.	1949	149.	1905	547.	1899	711.	1975	560.	1988	230.	2000	-187.	53
54	1976	0.	1931	146.	1972	536.	1915	707.	1937	558.	1907	229.	1978	-189.	54
55	1978	0.	1972	144.	1902	536.	1999	702.	1966	553.	1967	229.	1973	-191.	55
56	1979	0.	1921	140.	1907	535.	1945	697.	1950	551.	2001	226.	1927	-194.	56
57	1980	0.	1916	140.	1982	533.	1975	697.	1971	544.	1921	225.	1960	-198.	57
58	1981	0.	1975	135.	1922	527.	1925	693.	1953	542.	1901	225.	1912	-202.	58
59	1982	0.	1953	133.	1945	527.	1955	686.	1960	536.	1909	221.	1964	-202.	59
60	1983	0.	1993	133.	1957	515.	1909	680.	1951	535.	1930	221.	1970	-202.	60
61	1984	0.	1915	131.	1936	513.	1960	668.	1909	529.	1928	218.	1908	-203.	61
62	1986	0.	1974	128.	1948	508.	2000	665.	1932	513.	1915	214.	1929	-207.	62
63	1987	0.	1907	128.	1954	508.	1928	657.	1973	513.	1953	209.	1938	-207.	63
64	1988	0.	1969	121.	1939	504.	1967	648.	1944	509.	1924	209.	1957	-212.	64
65	1990	0.	1926	115.	1909	500.	1949	641.	1919	508.	1959	207.	1981	-216.	65
66	1991	0.	1950	112.	1993	495.	1953	639.	1928	506.	1935	205.	1902	-218.	66

Table 6.1 cont. Ranked Monthly FDD Accumulations at Duluth, MN.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
67	1995	0.	1985	109.	1992	492.	1946	637.	1941	493.	1978	200.	1919	-218.	67
68	1996	0.	1981	108.	1903	490.	1926	637.	1903	493.	1983	200.	1994	-234.	68
69	1998	0.	1902	101.	1968	486.	1973	634.	1969	491.	1998	194.	1899	-236.	69
70	1999	0.	1962	101.	1994	462.	1986	630.	1943	486.	1925	185.	1903	-241.	70
71	2000	0.	1943	99.	1937	461.	1981	625.	1945	486.	1905	185.	2001	-242.	71
72	2001	0.	1905	92.	1970	452.	1903	616.	1997	484.	1922	184.	1988	-249.	72
73	2002	0.	1984	92.	1958	448.	1993	615.	1993	484.	1992	184.	1898	-250.	73
74	1898	0.	1989	91.	1913	439.	1956	610.	1990	474.	1920	184.	1968	-252.	74
75	1899	0.	1980	88.	1944	434.	1923	592.	1925	470.	1991	178.	1990	-252.	75
76	1900	0.	1908	86.	1999	423.	1901	590.	1927	464.	1958	162.	1913	-252.	76
77	1901	0.	1954	83.	1916	412.	1983	583.	1908	459.	1966	151.	1969	-259.	77
78	1902	0.	1991	82.	1987	409.	1910	576.	1964	455.	1993	148.	1930	-261.	78
79	1903	0.	1988	82.	1941	407.	1941	574.	1942	446.	1990	143.	1901	-263.	79
80	1904	0.	1995	80.	1931	407.	1995	561.	1926	443.	1931	140.	1921	-266.	80
81	1905	0.	1982	72.	1900	401.	1989	544.	1981	439.	1963	140.	1948	-270.	81
82	1908	0.	1923	72.	1955	394.	1908	533.	1911	434.	1999	124.	1963	-272.	82
83	1910	0.	1910	72.	1921	392.	1947	526.	1977	414.	1981	115.	1910	-272.	83
84	1911	0.	1932	70.	1975	391.	1987	519.	1924	414.	1911	113.	1958	-275.	84
85	1915	0.	1919	67.	1901	387.	1939	518.	1902	391.	1995	113.	1980	-283.	85
86	1916	0.	1913	61.	1908	385.	1934	518.	1938	387.	1986	111.	1999	-291.	86
87	1917	0.	1945	58.	1983	385.	1914	517.	1940	387.	1929	110.	1949	-295.	87
88	1921	0.	1955	50.	2000	371.	1958	506.	1930	373.	1994	100.	1925	-299.	88
89	1922	0.	1929	47.	1906	369.	1998	499.	1921	367.	1961	83.	1985	-302.	89
90	1923	0.	1906	47.	1912	364.	1921	473.	1952	367.	1903	56.	1986	-302.	90
91	1925	0.	1961	47.	1929	358.	1906	472.	1991	349.	1985	54.	1931	-302.	91
92	1928	0.	1942	43.	1988	354.	1964	470.	1935	344.	1898	43.	1984	-312.	92
93	1930	0.	1964	40.	1966	338.	1992	469.	1961	344.	1927	43.	1976	-317.	93
94	1932	0.	1903	40.	1953	337.	1942	468.	1976	328.	1918	20.	1946	-324.	94
95	1936	0.	2002	30.	1995	324.	1902	463.	1915	320.	1977	18.	1991	-329.	95
96	1938	0.	1935	18.	1980	302.	1932	452.	2000	310.	1902	13.	1906	-338.	96
97	1939	0.	1918	16.	1942	297.	2001	447.	1992	309.	1987	13.	1941	-362.	97
98	1941	0.	2000	15.	2002	297.	1933	445.	1983	308.	1942	11.	1952	-371.	98
99	1944	0.	1999	12.	1998	291.	1919	441.	1999	291.	1973	5.	1977	-373.	99
100	1945	0.	1909	7.	1960	263.	2002	433.	2002	288.	1968	0.	1942	-376.	100
101	1946	0.	1924	4.	1919	261.	1900	423.	1984	245.	1938	-23.	1900	-380.	101
102	1947	0.	1963	0.	1924	248.	1990	405.	1987	234.	2000	-65.	1998	-382.	102
103	1948	0.	1900	0.	1914	200.	1898	403.	1954	232.	1945	-81.	1955	-409.	103
104	1949	0.	1940	-4.	1940	189.	1931	380.	1931	164.	1946	-115.	1915	-409.	104
105	1951	0.	1914	-40.	1932	166.	1944	317.	1998	82.	1910	-169.	1987	-422.	105

Severity Index	November	December	January	February	March	April
Upper Bound	year	FDD	year	FDD	year	FDD
Above Normal	1952	319.	2001	854.	1977	995.
Normal	1911	245.	1935	661.	1917	893.
Below Normal	1919	67.	1901	387.	1939	518.
Mild	1924	4.	1919	261.	1900	423.

Table 6.2 Ranked Monthly FDD Accumulations at Sault Ste. Marie, MI.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
1	1926	20.	1934	265.	1990	762.	1912	988.	1904	857.	1923	565.	1907	92.	1
2	1914	14.	1937	230.	1977	686.	1994	970.	1934	833.	1899	529.	1950	72.	2
3	1907	11.	1996	198.	1918	648.	1918	891.	1917	806.	1916	493.	1926	52.	3
4	1981	9.	1960	187.	1984	647.	1920	848.	1936	790.	1943	477.	1923	52.	4
5	1940	7.	1904	175.	1959	641.	1982	846.	1979	751.	1912	455.	1982	9.	5
6	1924	5.	1977	166.	1981	596.	1977	797.	1963	727.	1926	450.	1975	-13.	6
7	1909	5.	1930	164.	1920	581.	1904	781.	1914	722.	1934	448.	1928	-16.	7
8	1912	5.	1952	160.	2001	569.	1963	769.	1913	707.	1906	446.	1996	-17.	8
9	1955	4.	1990	150.	1925	562.	1945	769.	1967	682.	1900	439.	1936	-20.	9
10	1906	4.	1979	148.	1986	560.	1984	767.	1912	679.	1960	430.	1909	-31.	10
11	1997	4.	1948	144.	1905	536.	1924	738.	1899	668.	1950	410.	1947	-34	11
12	1950	4.	1957	137.	1934	522.	1957	729.	1994	668.	1972	407.	1943	-50.	12
13	1994	3.	1912	133.	1911	511.	1981	720.	1962	662.	1939	407.	1972	-56.	13
14	1918	2.	1898	133.	1927	493.	1979	716.	1907	657.	1989	386.	1917	-56.	14
15	1933	2.	1956	124.	1943	490.	1971	697.	1918	653.	1940	385.	1914	-59.	15
16	1985	1.	1927	122.	1996	487.	1970	695.	1923	650.	1996	378.	1934	-59.	16
17	1989	1.	1965	113.	1964	486.	1929	693.	1905	639.	1913	376.	1939	-61.	17
18	1921	0.	1933	113.	1930	473.	1948	693.	1974	630.	1944	373.	1920	-63.	18
19	1922	0.	1901	110.	1961	473.	1976	671.	1910	626.	1984	371.	1904	-77.	19
20	1923	0.	1968	110.	1904	472.	1962	668.	1959	623.	1956	369.	1995	-80.	20
21	1925	0.	1987	109.	1946	468.	1966	668.	1972	617.	1970	367.	1956	-83.	21
22	1927	0.	1978	108.	1963	464.	1996	663.	1920	617.	1955	365.	1978	-94.	22
23	1928	0.	1950	108.	1956	461.	1927	662.	1929	617.	1971	362.	1908	-103.	23
24	1929	0.	1997	106.	1971	455.	1961	661.	1968	617.	1978	360.	1944	-110.	24
25	1930	0.	1920	104.	1907	455.	1917	661.	1970	612.	1975	344.	1971	-115.	25
26	1931	0.	1941	101.	1965	452.	1978	657.	1916	592.	1932	340.	1992	-115.	26
27	1932	0.	1959	101.	1979	439.	1923	648.	1901	590.	1928	337.	1912	-117.	27
28	1934	0.	1931	101.	1952	432.	1959	646.	1939	589.	1917	335.	1965	-117.	28
29	1935	0.	1922	99.	1936	428.	1954	644.	1928	585.	1937	335.	1905	-117.	29
30	1936	0.	1917	97.	1969	425.	1925	641.	1978	585.	1901	329.	1967	-119.	30
31	1937	0.	1981	95.	1935	425.	1943	641.	1982	581.	1905	326.	1959	-122.	31
32	1938	0.	1918	88.	1917	423.	1907	639.	1908	581.	1967	324.	1924	-133.	32
33	1939	0.	1975	86.	1951	419.	1997	638.	1989	578.	1982	322.	1932	-135.	33
34	1941	0.	1944	86.	1973	414.	1905	637.	1924	576.	1904	322.	1994	-135.	34
35	1942	0.	1939	85.	1944	412.	1968	635.	1958	576.	1954	320.	1954	-140.	35
36	1943	0.	1976	85.	1967	407.	1930	634.	1900	576.	1974	317.	1940	-140.	36
37	1944	0.	1915	85.	1938	407.	1935	632.	1980	569.	1948	311.	1953	-144.	37
38	1945	0.	1902	81.	1898	407.	1899	630.	1988	568.	1992	308.	1979	-148.	38
39	1946	0.	1986	81.	1915	405.	1985	624.	1995	563.	1965	302.	1983	-149.	39
40	1947	0.	1951	81.	1974	405.	1965	619.	1996	561.	1914	302.	1997	-150.	40
41	1948	0.	1970	79.	1923	398.	1938	619.	1993	558.	2002	299.	1989	-155.	41
42	1949	0.	1994	78.	1899	396.	1922	617.	1946	556.	1980	295.	1993	-156.	42
43	1951	0.	1946	76.	1945	396.	1940	617.	1922	549.	1908	295.	1922	-158.	43
44	1952	0.	1972	74.	1900	391.	1986	602.	1965	538.	1911	293.	1930	-164.	44
45	1953	0.	1928	70.	1989	390.	1936	594.	1985	536.	1964	292.	1960	-166.	45
46	1954	0.	1905	68.	1903	387.	1991	587.	1971	531.	1941	292.	1918	-167.	46
47	1956	0.	1969	68.	1928	387.	1999	575.	1948	529.	1959	290.	1961	-169.	47
48	1957	0.	1947	65.	1970	385.	1972	565.	1906	527.	1976	284.	1946	-171.	48
49	1958	0.	1925	65.	1976	380.	1988	563.	1935	513.	1909	284.	1916	-171.	49
50	1959	0.	1923	63.	1978	378.	1911	554.	1950	506.	1969	281.	1962	-175.	50
51	1960	0.	1971	63.	1902	378.	1974	551.	1947	500.	1963	279.	1966	-176.	51
52	1961	0.	1906	63.	1947	376.	1941	549.	1926	500.	1949	277.	1974	-176.	52
53	1962	0.	1995	61.	1957	374.	2000	548.	1977	499.	1988	274.	1969	-178.	53
54	1963	0.	1926	58.	1948	364.	1951	545.	1973	488.	1997	274.	1911	-180.	54
55	1964	0.	1982	58.	1926	364.	1942	542.	1942	481.	1930	270.	1919	-180.	55
56	1965	0.	1899	56.	1962	360.	1915	542.	1933	479.	1952	263.	1964	-180.	56
57	1966	0.	1993	56.	1985	353.	1980	526.	1986	475.	1947	261.	2002	-184.	57
58	1967	0.	1936	50.	1922	349.	1969	515.	2001	466.	1920	247.	1933	-189.	58
59	1968	0.	1911	50.	1910	347.	1950	515.	1909	463.	1933	247.	1899	-191.	59
60	1969	0.	1943	50.	1955	337.	1928	504.	1927	452.	1925	230.	1957	-193.	60
61	1970	0.	1983	50.	1909	326.	1983	500.	1925	450.	1915	221.	1931	-196.	61
62	1971	0.	1945	49.	1916	324.	1910	499.	1930	441.	1907	216.	1927	-196.	62
63	1972	0.	1953	49.	1994	323.	1946	497.	1955	441.	1957	214.	1937	-200.	63
64	1973	0.	1988	48.	1982	320.	1939	495.	1943	439.	2001	209.	1938	-203.	64
65	1974	0.	1958	47.	1992	318.	1898	493.	1944	439.	1922	209.	1985	-205.	65
66	1975	0.	1973	47.	1908	313.	1975	491.	1964	436.	1994	206.	1970	-207.	66

Table 6.2 cont. Ranked Monthly FDD Accumulations at Sault Ste. Marie, MI.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
67	1976	0.	1938	47.	1972	308.	1908	490.	1960	428.	1936	205.	1898	-216.	67
68	1977	0.	1921	45.	1931	308.	1901	490.	1945	427.	1918	203.	1981	-220.	68
69	1978	0.	2001	45.	1968	302.	1926	488.	1903	427.	1935	202.	1913	-221.	69
70	1979	0.	1984	44.	1950	302.	1903	484.	1938	425.	1986	193.	1903	-223.	70
71	1980	0.	1967	43.	1991	296.	1956	482.	1957	425.	1951	193.	1963	-223.	71
72	1982	0.	1903	41.	1901	288.	1909	481.	1911	421.	1985	171.	1988	-223.	72
73	1983	0.	1913	41.	1933	288.	1955	475.	1992	415.	1924	171.	1902	-227.	73
74	1984	0.	1966	41.	1949	279.	1992	471.	1951	414.	1961	169.	1945	-227.	74
75	1986	0.	1998	40.	1999	270.	1916	464.	1902	412.	1968	166.	1935	-229.	75
76	1987	0.	1908	40.	1997	262.	1993	463.	1940	409.	1993	164.	1973	-234.	76
77	1988	0.	1985	38.	1941	259.	1958	461.	1956	401.	1990	163.	1929	-239.	77
78	1990	0.	1942	32.	1958	257.	1902	461.	1898	400.	1921	160.	1977	-239.	78
79	1991	0.	1929	31.	1942	256.	1947	457.	1997	397.	1999	158.	1948	-241.	79
80	1992	0.	1919	29.	1993	254.	1967	455.	1975	394.	1979	155.	1976	-241.	80
81	1993	0.	1980	27.	1954	254.	1914	455.	1990	393.	1931	153.	1949	-241.	81
82	1995	0.	1910	22.	1980	248.	1952	452.	1937	392.	1953	149.	1906	-245.	82
83	1996	0.	1962	22.	1939	245.	1913	445.	1941	383.	1938	149.	1951	-248.	83
84	1998	0.	1964	20.	1975	243.	1960	427.	1969	382.	1981	148.	2000	-251.	84
85	1999	0.	1992	20.	1913	241.	1931	425.	1976	382.	1991	146.	2001	-267.	85
86	2000	0.	2002	18.	1937	236.	1949	425.	1981	378.	1919	144.	1980	-272.	86
87	2001	0.	1932	16.	1983	234.	1937	423.	1949	378.	1983	139.	1990	-281.	87
88	2002	0.	1961	14.	2000	226.	1998	419.	1932	364.	1962	133.	1968	-281.	88
89	1898	0.	1954	13.	1906	220.	1953	409.	1961	362.	1942	119.	1958	-281.	89
90	1899	0.	1940	13.	1960	218.	1973	398.	1966	362.	1929	117.	1925	-288.	90
91	1900	0.	1949	13.	1919	209.	1934	398.	1991	358.	1966	112.	1910	-297.	91
92	1901	0.	1989	10.	1921	207.	1989	380.	1952	356.	1995	108.	1952	-304.	92
93	1902	0.	1916	7.	1940	207.	1921	378.	1953	355.	1977	106.	1901	-324.	93
94	1903	0.	1991	6.	1987	194.	1900	373.	1919	340.	1998	91.	1921	-328.	94
95	1904	0.	1907	4.	1914	185.	1987	372.	1915	333.	1898	90.	1991	-333.	95
96	1905	0.	1974	2.	1998	182.	2001	365.	1921	331.	1927	77.	1900	-338.	96
97	1908	0.	1900	0.	1988	179.	1919	358.	1931	315.	1987	71.	1986	-345.	97
98	1910	0.	1935	0.	1912	171.	1964	355.	1983	310.	1910	58.	1999	-353.	98
99	1911	0.	1955	0.	1966	164.	1995	339.	1987	279.	1903	27.	1942	-355.	99
100	1913	0.	1963	0.	1929	158.	1906	308.	2000	268.	1958	27.	1915	-362.	100
101	1915	0.	1999	0.	1953	146.	1933	293.	1999	266.	1902	-2.	1984	-367.	101
102	1916	0.	2000	0.	1932	121.	1944	259.	2002	264.	1945	-68.	1998	-367.	102
103	1917	0.	1909	-5.	1924	94.	1990	258.	1984	218.	2000	-71.	1955	-371.	103
104	1919	0.	1924	-7.	2002	94.	2002	253.	1954	214.	1973	-92.	1941	-401.	104
105	1920	0.	1914	-14.	1995	76.	1932	155.	1998	72.	1946	-101.	1987	-417.	105

Severity Index	November	December	January	February	March	April
Upper Bound	year	FDD	year	FDD	year	FDD
Above Normal	1977	166.	1981	596.	1977	797.
Normal	1978	108.	1963	464.	1996	663.
Below Normal	1992	20.	1913	241.	1931	425.
Mild	1999	0.	1953	146.	1933	293.

Table 6.3 Ranked Monthly FDD Accumulations at Houghton, MI.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
1	1926	32.	1952	320.	1977	641.	1912	1024.	1904	828.	1899	545.	1907	83.	1
2	1906	18.	1960	277.	1990	629.	1994	841.	1936	805.	1923	531.	1950	47.	2
3	1955	16.	1996	234.	1984	623.	1977	828.	1917	805.	1943	450.	1972	-7.	3
4	1994	9.	1948	223.	1918	603.	1920	799.	1979	724.	1972	448.	1996	-7.	4
5	1914	9.	1951	220.	1920	603.	1948	797.	1963	706.	1916	446.	1975	-22.	5
6	1907	9.	1898	196.	2001	599.	1963	796.	1914	693.	1912	446.	1909	-23.	6
7	1997	9.	1977	193.	1925	594.	1918	785.	1929	691.	1960	445.	1920	-31.	7
8	1924	7.	1930	184.	1959	587.	1979	743.	1967	684.	1965	441.	1936	-40.	8
9	1912	7.	1986	180.	1986	568.	1929	743.	1899	671.	1926	432.	1995	-43.	9
10	1989	6.	1990	170.	1964	522.	1924	742.	1900	662.	1984	427.	1926	-45.	10
11	1918	5.	1934	167.	1973	518.	1959	734.	1913	653.	1906	425.	1956	-49.	11
12	1952	5.	1979	160.	1951	513.	1957	724.	1923	643.	2002	423.	1928	-52.	12
13	1950	4.	1937	157.	1928	504.	1982	686.	1994	642.	1913	423.	1917	-54.	13
14	1985	4.	1987	156.	1952	491.	1972	680.	1972	639.	1950	414.	1953	-61.	14
15	1927	2.	1997	153.	1934	484.	1930	675.	1916	617.	1996	412.	1904	-63.	15
16	1909	2.	1933	153.	1961	484.	1971	675.	1934	616.	1900	398.	1982	-65.	16
17	1967	2.	1957	151.	1956	482.	1951	673.	1970	612.	1955	396.	1939	-72.	17
18	1931	2.	1912	151.	1904	482.	1970	662.	1905	610.	1964	380.	1966	-74.	18
19	1992	1.	1965	148.	1917	479.	1966	662.	1901	610.	1932	371.	1962	-79.	19
20	1923	0.	1927	140.	1965	475.	1904	652.	1959	610.	1956	364.	2002	-81.	20
21	1925	0.	1968	139.	1963	466.	1950	648.	1965	603.	1989	363.	1979	-83.	21
22	1928	0.	1956	137.	1927	459.	1962	644.	1918	596.	1954	349.	1965	-85.	22
23	1929	0.	1992	132.	1979	457.	1961	632.	1948	592.	1970	349.	1914	-86.	23
24	1930	0.	1920	130.	1981	455.	1917	632.	1912	590.	1904	340.	1983	-86.	24
25	1932	0.	1978	126.	1915	454.	1984	631.	1989	582.	1934	329.	1954	-95.	25
26	1933	0.	1959	122.	1949	445.	1943	621.	1968	580.	1969	328.	1947	-97.	26
27	1934	0.	1922	121.	1996	425.	1976	616.	1988	580.	1951	319.	1923	-104.	27
28	1935	0.	1901	121.	1976	418.	1907	610.	1962	580.	1944	317.	1993	-106.	28
29	1936	0.	1958	119.	1923	418.	1996	609.	1907	578.	1937	315.	1961	-108.	29
30	1937	0.	1950	115.	1974	414.	1965	608.	1995	574.	1947	315.	1992	-108.	30
31	1938	0.	1970	115.	1946	412.	1927	601.	1920	567.	1914	313.	1978	-110.	31
32	1939	0.	1904	112.	1933	405.	1905	590.	1974	563.	1971	313.	1943	-112.	32
33	1940	0.	1983	112.	1989	401.	1991	590.	1985	555.	1940	306.	1971	-113.	33
34	1941	0.	1917	108.	1943	398.	1954	587.	1910	554.	1980	304.	1967	-117.	34
35	1942	0.	1973	108.	1898	398.	1974	585.	1996	537.	1948	297.	1935	-119.	35
36	1943	0.	1998	106.	1948	398.	1922	583.	1982	536.	1901	292.	1933	-121.	36
37	1944	0.	1976	106.	1899	396.	1985	582.	1933	535.	1974	292.	1989	-123.	37
38	1945	0.	1994	105.	1905	392.	1937	578.	1958	531.	1939	290.	1997	-123.	38
39	1946	0.	1931	101.	1950	391.	1945	576.	1980	529.	1917	288.	1959	-124.	39
40	1947	0.	1941	99.	1926	389.	1915	576.	1928	518.	1941	286.	1932	-124.	40
41	1948	0.	2001	97.	1978	387.	1968	574.	1951	513.	1982	279.	1940	-124.	41
42	1949	0.	1939	95.	1967	385.	1988	571.	1947	509.	1997	279.	1934	-130.	42
43	1951	0.	1928	94.	1930	383.	1935	569.	1978	508.	1957	275.	1924	-130.	43
44	1953	0.	1947	94.	1935	382.	1899	562.	1946	508.	1975	275.	1944	-137.	44
45	1954	0.	1967	92.	1962	380.	1997	559.	1922	500.	1933	275.	1970	-142.	45
46	1956	0.	1899	92.	1902	380.	1978	556.	1950	499.	1959	275.	1912	-144.	46
47	1957	0.	1971	92.	1911	378.	1936	547.	1939	486.	1979	274.	1916	-144.	47
48	1958	0.	1966	85.	1991	374.	1999	540.	1906	482.	1967	272.	1964	-146.	48
49	1959	0.	1938	83.	1900	373.	1911	536.	1957	479.	1963	266.	1994	-147.	49
50	1960	0.	1972	81.	1938	371.	1952	524.	1955	479.	1949	265.	1974	-151.	50
51	1961	0.	1944	77.	1985	367.	1940	517.	1971	477.	1908	259.	1960	-153.	51
52	1962	0.	1936	76.	1969	365.	1916	509.	2001	471.	1978	257.	1918	-158.	52
53	1963	0.	1943	74.	1971	362.	1913	509.	1986	465.	1952	257.	1905	-162.	53
54	1964	0.	1953	72.	1997	361.	1925	508.	1966	459.	2001	256.	1937	-164.	54
55	1965	0.	1993	71.	1907	360.	1980	508.	1949	459.	1909	254.	1945	-166.	55
56	1966	0.	1975	70.	1910	351.	1981	504.	1943	457.	1905	252.	1951	-169.	56
57	1968	0.	1995	68.	1945	349.	1955	497.	1977	457.	1928	247.	1908	-176.	57
58	1969	0.	1980	67.	1957	342.	1938	495.	1993	455.	1992	243.	1922	-184.	58
59	1970	0.	1915	61.	1909	340.	1967	495.	1960	450.	1976	239.	2000	-187.	59
60	1971	0.	1905	59.	1903	335.	1926	486.	1909	446.	1930	239.	1919	-191.	60
61	1972	0.	1902	59.	1970	333.	1901	486.	1926	437.	1988	235.	1957	-191.	61
62	1973	0.	1969	58.	1944	333.	1923	481.	1925	437.	1925	225.	1963	-200.	62
63	1974	0.	1911	58.	1972	331.	1909	477.	1956	437.	1920	221.	1902	-202.	63
64	1975	0.	1988	58.	1958	329.	1975	475.	1973	434.	1915	221.	2001	-202.	64
65	1976	0.	1984	57.	1968	328.	2000	474.	1908	430.	1993	214.	1973	-203.	65
66	1977	0.	1946	56.	1992	325.	1953	472.	1953	423.	1953	207.	1927	-203.	66

Table 6.3 cont. Ranked Monthly FDD Accumulations at Houghton, MI.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
67	1978	0.	1925	56.	1955	319.	1986	471.	1903	419.	1907	189.	1988	-207.	67
68	1979	0.	1981	54.	1982	319.	1946	464.	1945	414.	1962	189.	1911	-216.	68
69	1980	0.	1921	52.	1947	319.	1960	464.	1964	414.	1983	185.	1958	-218.	69
70	1981	0.	1962	52.	1993	318.	1947	457.	1997	413.	1936	184.	1898	-220.	70
71	1982	0.	1949	49.	1922	317.	1902	457.	1942	412.	1924	178.	1903	-220.	71
72	1983	0.	1918	41.	1936	306.	1910	454.	1927	409.	1921	175.	1899	-221.	72
73	1984	0.	1926	41.	1994	301.	1928	452.	1924	394.	1919	169.	1969	-223.	73
74	1986	0.	1954	40.	1901	299.	1903	443.	1969	392.	1961	160.	1968	-227.	74
75	1987	0.	1982	38.	1954	293.	1969	441.	1932	385.	1935	157.	1930	-227.	75
76	1988	0.	1913	36.	1913	292.	1993	441.	1944	383.	1966	157.	1929	-234.	76
77	1990	0.	1991	36.	1931	286.	1949	439.	1898	383.	1991	150.	1980	-238.	77
78	1991	0.	1919	34.	1999	284.	1941	442.	1937	378.	1994	147.	1984	-239.	78
79	1993	0.	1942	32.	1908	281.	1983	410.	1930	374.	1958	144.	1984	-246.	79
80	1995	0.	1923	31.	2000	276.	1992	401.	1990	370.	1929	142.	1913	-252.	80
81	1996	0.	1908	31.	1916	275.	1908	398.	1941	369.	1931	140.	1931	-254.	81
82	1998	0.	1903	29.	1983	259.	1956	398.	1975	367.	1981	135.	1946	-257.	82
83	1999	0.	1916	27.	1987	252.	1973	396.	1981	364.	1922	133.	1938	-263.	83
84	2000	0.	1964	27.	1939	248.	1942	394.	1952	362.	1986	131.	1976	-279.	84
85	2001	0.	1929	27.	1966	236.	1958	392.	1935	351.	1968	124.	1990	-292.	85
86	2002	0.	1932	25.	1980	236.	1900	382.	1921	335.	1911	121.	1999	-295.	86
87	1898	0.	1945	25.	1937	234.	1995	381.	1961	331.	1995	110.	1985	-299.	87
88	1899	0.	1906	25.	1941	232.	1939	364.	1991	321.	1998	110.	1906	-301.	88
89	1900	0.	1961	23.	1975	230.	1898	364.	1938	315.	1942	94.	1977	-311.	89
90	1901	0.	1989	20.	1953	218.	1914	358.	1902	313.	1990	92.	1925	-317.	90
91	1902	0.	2002	16.	1921	216.	1933	347.	1940	297.	1999	86.	1921	-317.	91
92	1903	0.	1907	14.	1906	214.	1989	342.	1992	294.	1985	85.	1986	-318.	92
93	1904	0.	1974	13.	1929	198.	1921	342.	1976	288.	1898	72.	1901	-319.	93
94	1905	0.	1985	11.	1960	185.	1998	341.	1919	284.	1927	68.	1910	-326.	94
95	1908	0.	2000	9.	1988	183.	1964	340.	1911	274.	1918	67.	1952	-331.	95
96	1910	0.	1955	5.	1912	173.	1987	336.	1915	256.	1903	38.	1991	-337.	96
97	1911	0.	1924	5.	1942	164.	1934	329.	2000	246.	1977	34.	1948	-351.	97
98	1913	0.	1935	4.	2002	163.	1931	328.	1983	245.	1987	30.	1949	-365.	98
99	1915	0.	1910	2.	1919	162.	2002	308.	1954	236.	1938	25.	1941	-367.	99
100	1916	0.	1999	0.	1998	155.	2001	299.	1999	234.	1902	11.	1955	-371.	100
101	1917	0.	1909	0.	1995	146.	1906	279.	2002	233.	1973	-29.	1998	-378.	101
102	1919	0.	1900	0.	1914	128.	1990	274.	1931	203.	2000	-50.	1900	-403.	102
103	1920	0.	1940	0.	1940	106.	1919	272.	1987	184.	1945	-94.	1942	-403.	103
104	1921	0.	1963	0.	1924	79.	1944	236.	1984	184.	1946	-108.	1915	-409.	104
105	1922	0.	1914	-9.	1932	68.	1932	212.	1998	49.	1910	-135.	1987	-428.	105

Severity Index	November	December	January	February	March	April
Upper Bound	year	FDD	year	FDD	year	FDD
Above Normal	1898	196.	2001	599.	1963	796.
Normal	1956	137.	1927	459.	1962	644.
Below Normal	1929	27.	1966	236.	1958	392.
Mild	1909	0.	1995	146.	1906	279.

Table 6.4 Ranked Monthly FDD Accumulations at Marquette, MI.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
1	1926	27.	1996	269.	1977	729.	1912	950.	1904	742.	1899	504.	1907	65.	1
2	1989	19.	1977	254.	1984	722.	1994	904.	1936	733.	1984	469.	1972	31.	2
3	1906	13.	1987	223.	1990	704.	1977	887.	1917	718.	1923	452.	1975	9.	3
4	1994	11.	1986	212.	1986	693.	1982	846.	1967	711.	2002	433.	1996	7.	4
5	1977	9.	1990	209.	2001	591.	1979	819.	1979	704.	1972	427.	1950	-9.	5
6	1924	9.	1979	198.	1920	569.	1972	783.	1994	677.	1969	405.	1995	-12.	6
7	1997	9.	1960	196.	1973	567.	1971	761.	1989	660.	1971	396.	1909	-23.	7
8	1907	7.	1930	182.	1925	565.	1970	720.	1900	648.	1912	391.	1982	-23.	8
9	1955	5.	1978	173.	1979	553.	1984	716.	1972	648.	1989	389.	1920	-27.	9
10	1985	5.	1968	169.	1918	540.	1918	715.	1988	612.	1996	384.	1917	-40.	10
11	1952	5.	1997	160.	1981	513.	1963	709.	1968	608.	1916	382.	1983	-54.	11
12	1918	4.	1998	156.	1978	488.	1920	709.	1899	608.	1970	373.	1936	-61.	12
13	1914	4.	1970	153.	1996	486.	1976	689.	1974	598.	1900	362.	1947	-68.	13
14	1912	4.	1992	152.	1989	481.	1991	684.	1912	590.	1926	353.	1979	-72.	14
15	1950	4.	1934	149.	1976	477.	1929	677.	1934	590.	1906	351.	1926	-76.	15
16	1993	3.	1904	148.	1974	470.	1924	668.	1978	589.	1960	338.	1978	-77.	16
17	1940	2.	1898	142.	1904	455.	1996	665.	1913	585.	1975	335.	1993	-80.	17
18	1921	0.	1994	140.	1959	452.	1974	644.	1996	581.	1980	335.	1928	-83.	18
19	1922	0.	1948	135.	1991	431.	1985	642.	1970	580.	1978	331.	1992	-85.	19
20	1923	0.	1973	135.	1971	425.	1978	635.	1914	574.	1997	327.	1989	-88.	20
21	1925	0.	1933	124.	1934	423.	1999	627.	1963	569.	1943	326.	1914	-92.	21
22	1927	0.	1912	121.	1915	419.	1988	627.	1985	567.	1974	311.	1939	-94.	22
23	1928	0.	1976	115.	1928	419.	1904	610.	1982	558.	1934	311.	1971	-115.	23
24	1929	0.	1980	115.	1917	416.	1968	605.	1980	558.	1913	310.	1940	-117.	24
25	1930	0.	1983	112.	1985	414.	1959	603.	1923	554.	1950	295.	1997	-123.	25
26	1931	0.	1952	112.	1982	412.	1917	601.	1929	545.	1967	288.	1953	-126.	26
27	1932	0.	1927	110.	1964	407.	1957	590.	1971	538.	1940	286.	1956	-131.	27
28	1933	0.	1956	110.	1923	401.	1980	587.	1916	526.	1992	283.	1923	-133.	28
29	1934	0.	1937	108.	1927	400.	1997	586.	1901	524.	1937	277.	1934	-135.	29
30	1935	0.	1993	107.	1969	400.	1930	581.	1905	524.	1982	277.	2002	-136.	30
31	1936	0.	1901	104.	1963	391.	1899	576.	2001	504.	1904	274.	1974	-137.	31
32	1937	0.	1965	103.	1968	389.	1975	567.	1993	500.	1988	272.	1924	-142.	32
33	1938	0.	1920	101.	1972	383.	1981	562.	1918	499.	1939	270.	1935	-142.	33
34	1939	0.	1972	101.	1961	376.	1948	554.	1977	495.	1965	270.	1944	-146.	34
35	1941	0.	1922	97.	1992	371.	1962	553.	1962	488.	1932	266.	1994	-146.	35
36	1942	0.	1959	97.	1956	365.	1907	549.	1986	483.	1976	266.	1973	-146.	36
37	1943	0.	1931	97.	1910	360.	1986	547.	1907	479.	1944	259.	1967	-148.	37
38	1944	0.	1971	97.	1993	360.	1905	544.	1920	475.	1901	259.	1905	-149.	38
39	1945	0.	1981	95.	1970	360.	1967	542.	1995	472.	2001	251.	1933	-157.	39
40	1946	0.	1975	95.	1899	356.	1945	540.	1910	472.	1979	239.	1932	-157.	40
41	1947	0.	1957	94.	1898	356.	1943	527.	1939	466.	1933	227.	1943	-162.	41
42	1948	0.	1951	92.	1943	355.	1966	517.	1959	459.	1955	225.	1918	-164.	42
43	1949	0.	2001	89.	1951	347.	1927	513.	1973	457.	1998	222.	1961	-167.	43
44	1951	0.	1917	88.	1905	346.	1950	504.	1965	455.	1914	218.	1966	-173.	44
45	1953	0.	1995	88.	1926	344.	1937	497.	1933	454.	1948	214.	1937	-173.	45
46	1954	0.	1962	83.	1965	344.	1961	495.	1969	439.	1908	209.	1922	-178.	46
47	1956	0.	1939	81.	1994	343.	1965	493.	1958	436.	1956	209.	1970	-182.	47
48	1957	0.	1969	79.	1911	342.	1938	493.	1922	434.	1964	207.	1962	-182.	48
49	1958	0.	1941	79.	1938	342.	1915	490.	1997	419.	1917	207.	1912	-184.	49
50	1959	0.	1899	77.	1902	342.	1936	490.	1946	416.	1951	198.	1902	-185.	50
51	1960	0.	1938	76.	1946	340.	1935	486.	1975	414.	1941	196.	1965	-185.	51
52	1961	0.	1947	72.	1999	337.	1969	482.	1948	410.	1993	192.	1898	-189.	52
53	1962	0.	1982	70.	1952	333.	1973	464.	1928	403.	1983	189.	1916	-193.	53
54	1963	0.	1984	67.	1987	331.	1922	463.	1906	396.	1905	185.	1959	-194.	54
55	1964	0.	1943	65.	1945	331.	1911	463.	1908	394.	1909	184.	1903	-196.	55
56	1965	0.	1944	63.	1933	329.	1993	462.	1947	392.	1930	182.	1908	-196.	56
57	1966	0.	1988	63.	1997	327.	1992	460.	1990	384.	1986	176.	1951	-198.	57
58	1967	0.	1950	61.	1935	317.	1954	455.	1903	383.	1957	175.	1988	-203.	58
59	1968	0.	1905	61.	1930	317.	1916	455.	1981	382.	1928	173.	1969	-203.	59
60	1969	0.	1958	61.	1907	311.	1995	448.	1925	376.	1954	173.	1981	-207.	60
61	1970	0.	1925	56.	1909	310.	1940	448.	1909	373.	1952	171.	1911	-207.	61
62	1971	0.	1974	52.	1962	299.	1913	441.	1926	365.	1915	169.	1980	-214.	62
63	1972	0.	1936	52.	1947	299.	1951	439.	1950	355.	1985	164.	1919	-216.	63
64	1973	0.	1911	47.	1900	284.	1925	437.	1992	351.	1947	164.	1938	-223.	64
65	1974	0.	1985	46.	1922	281.	1983	434.	1949	351.	1991	159.	1999	-226.	65
66	1975	0.	1953	43.	1948	279.	1987	434.	1951	349.	1949	158.	1954	-230.	66

Table 6.4 cont. Ranked Monthly FDD Accumulations at Marquette, MI.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
67	1976	0.	1926	41.	1983	274.	1998	433.	1943	340.	1999	155.	1927	-236.	67
68	1978	0.	1928	41.	1903	274.	1926	418.	1976	340.	1959	151.	1930	-239.	68
69	1979	0.	1991	38.	1936	272.	1903	414.	2000	338.	1981	149.	1960	-239.	69
70	1980	0.	1913	38.	1980	266.	1901	410.	1955	335.	1994	141.	1968	-239.	70
71	1981	0.	1918	38.	1944	265.	1909	410.	1942	329.	1936	139.	1929	-241.	71
72	1982	0.	1915	36.	1988	255.	1923	398.	1991	326.	1963	133.	1945	-243.	72
73	1983	0.	1902	32.	1967	254.	1989	393.	1957	322.	1924	133.	1984	-245.	73
74	1984	0.	1919	31.	1939	254.	1952	383.	1898	320.	1925	130.	1976	-256.	74
75	1986	0.	1929	29.	1975	252.	1946	383.	1924	317.	1920	126.	2001	-261.	75
76	1987	0.	1946	27.	1949	250.	1902	376.	1945	317.	1995	117.	1899	-263.	76
77	1988	0.	1903	25.	1950	245.	1910	373.	1937	315.	1962	110.	1985	-267.	77
78	1990	0.	1923	25.	1957	239.	1928	369.	1944	310.	1907	108.	1907	-268.	78
79	1991	0.	1966	25.	1901	232.	1942	353.	1966	304.	1921	106.	1931	-272.	79
80	1992	0.	1908	23.	1916	229.	1955	346.	1960	301.	1919	106.	1913	-275.	80
81	1995	0.	1967	22.	1931	227.	1941	344.	1927	301.	1968	104.	1963	-275.	81
82	1996	0.	1954	18.	1913	225.	1947	344.	1953	297.	1990	100.	1957	-284.	82
83	1998	0.	1932	18.	1998	220.	1960	333.	1932	293.	1911	97.	1977	-290.	83
84	1999	0.	2002	18.	1941	212.	1939	331.	1902	293.	1935	90.	1946	-297.	84
85	1898	0.	1945	16.	1908	207.	2001	326.	1941	293.	1931	85.	1998	-300.	85
86	2001	0.	1989	15.	1958	203.	1908	324.	1999	289.	1922	67.	1986	-300.	86
87	2002	0.	1916	14.	1955	200.	2002	322.	1935	286.	1987	60.	1901	-304.	87
88	1899	0.	1906	14.	1921	189.	1898	311.	1983	284.	1977	59.	1910	-306.	88
89	1900	0.	1961	14.	1954	189.	1914	308.	1930	281.	1929	58.	1991	-311.	89
90	1901	0.	1942	13.	2002	182.	1953	304.	1956	281.	1958	56.	1958	-311.	90
91	1902	0.	1949	13.	1937	175.	1990	301.	2002	279.	1953	50.	1990	-312.	91
92	1903	0.	1964	11.	1906	169.	1949	299.	1938	263.	1961	45.	1948	-322.	92
93	1904	0.	1921	11.	1929	157.	1956	286.	1940	259.	1942	29.	1925	-329.	93
94	1905	0.	1907	2.	1942	140.	1900	279.	1987	255.	1966	13.	1906	-331.	94
95	1908	0.	1999	0.	1995	132.	1958	274.	1911	254.	1918	9.	1900	-346.	95
96	1909	0.	1909	0.	1940	112.	1934	266.	1952	250.	1903	4.	1949	-351.	96
97	1910	0.	1935	0.	1912	104.	1921	261.	1964	247.	1898	-2.	1952	-374.	97
98	1911	0.	1910	0.	1966	99.	1931	257.	1919	243.	1927	-22.	1987	-378.	98
99	1913	0.	1900	0.	1953	99.	1933	250.	1921	241.	1938	-32.	1921	-380.	99
100	1915	0.	1963	0.	1919	99.	1906	241.	1961	202.	2000	-33.	1941	-409.	100
101	1916	0.	1914	-2.	1914	95.	1919	230.	1915	185.	1973	-34.	1955	-441.	101
102	1917	0.	1940	-2.	1960	77.	1964	209.	1984	175.	1902	-41.	1915	-459.	102
103	1919	0.	1955	-4.	1924	65.	1932	146.	1931	115.	1946	-178.	1942	-495.	103
104	1920	0.	1924	-7.	1932	9.	1944	144.	1998	95.	1945	-185.	1904	-538.	104
105	2000	-999.	2000	-999.	2000	-999.	2000	-999.	1954	88.	1910	-194.	2000	-700.	105

Severity Index	November	December	January	February	March	April
Upper Bound	year	FDD	year	FDD	year	FDD
Above Normal	1979	198.	1920	569.	1972	783.
Normal	1912	121.	1915	419.	1988	627.
Below Normal	1945	16.	1908	207.	2001	326.
Mild	1914	-2.	1914	95.	1919	230.

Table 6.5 Ranked Monthly FDD Accumulations at Green Bay, WI.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
1	1926	36.	1960	220.	1977	709.	1912	1026.	1936	794.	1960	387.	1907	-90.	1
2	1918	18.	1952	198.	1986	700.	1977	896.	1904	738.	1899	351.	1950	-103.	2
3	1989	8.	1977	198.	1984	664.	1929	812.	1917	668.	1912	311.	1928	-167.	3
4	1955	5.	1930	175.	1990	643.	1979	812.	1979	646.	1923	306.	1920	-171.	4
5	1924	5.	1904	157.	2001	635.	1918	812.	1914	628.	1906	304.	1904	-175.	5
6	1907	4.	1978	148.	1920	621.	1994	795.	1899	607.	1926	275.	1909	-189.	6
7	1914	4.	1912	144.	1964	619.	1982	781.	1929	592.	1916	254.	1936	-203.	7
8	1906	4.	1996	142.	1951	565.	1971	778.	1963	589.	1956	248.	1975	-205.	8
9	1997	3.	1986	141.	1904	563.	1963	776.	1978	583.	1900	247.	1956	-218.	9
10	1927	2.	1997	139.	1925	558.	1970	770.	1905	565.	1975	245.	1972	-221.	10
11	1950	2.	1898	135.	1959	527.	1966	747.	1923	563.	1950	239.	1917	-225.	11
12	1911	0.	1957	131.	1918	520.	1924	733.	1912	551.	1943	239.	1926	-230.	12
13	1912	0.	1948	128.	1910	499.	1959	722.	1913	551.	1972	238.	1982	-248.	13
14	1913	0.	1951	126.	1915	488.	1920	707.	1959	551.	1965	236.	1978	-250.	14
15	1915	0.	1987	125.	1917	486.	1904	700.	1900	542.	1969	234.	1983	-252.	15
16	1916	0.	1979	122.	1962	479.	1957	697.	1901	533.	1932	234.	1923	-252.	16
17	1917	0.	1901	113.	1928	473.	1972	677.	1916	531.	1984	224.	1965	-254.	17
18	1919	0.	1933	110.	1956	472.	1905	671.	1967	529.	1959	220.	1914	-256.	18
19	1920	0.	1956	108.	1899	459.	1948	650.	1989	527.	1978	209.	1944	-257.	19
20	1921	0.	1931	99.	1973	457.	1930	650.	1972	513.	1989	205.	1918	-259.	20
21	1922	0.	1899	99.	1926	450.	1978	643.	1962	508.	1940	198.	1993	-259.	21
22	1923	0.	1959	99.	1927	445.	1917	643.	1934	491.	1971	191.	1995	-260.	22
23	1925	0.	1970	97.	1946	439.	1962	639.	1988	491.	1941	191.	1947	-265.	23
24	1928	0.	1990	94.	1978	434.	1951	634.	1994	485.	1996	185.	1940	-266.	24
25	1929	0.	1965	94.	1898	432.	1936	625.	1958	479.	1951	182.	1996	-269.	25
26	1930	0.	1927	92.	1963	430.	1985	614.	1910	472.	1913	176.	1943	-270.	26
27	1931	0.	1937	86.	1979	428.	1988	600.	1971	472.	1934	173.	1939	-272.	27
28	1932	0.	1938	85.	1952	419.	1984	600.	1920	470.	1952	169.	1953	-277.	28
29	1933	0.	1968	85.	1943	416.	1976	596.	1965	470.	1955	162.	1961	-279.	29
30	1934	0.	1934	83.	1945	405.	1922	589.	1970	464.	1944	160.	1935	-281.	30
31	1935	0.	1950	83.	1911	400.	1943	567.	1922	463.	1901	157.	1966	-284.	31
32	1936	0.	1920	83.	1996	396.	1940	563.	1918	454.	2002	157.	1933	-288.	32
33	1937	0.	1917	77.	1961	392.	1969	560.	1982	454.	1980	149.	1979	-292.	33
34	1938	0.	1941	74.	1923	385.	1996	560.	1968	445.	1962	146.	1932	-293.	34
35	1939	0.	1922	74.	1902	383.	1991	556.	1948	441.	1964	144.	1924	-293.	35
36	1940	0.	2001	69.	1981	383.	1945	556.	1947	434.	1904	144.	1937	-293.	36
37	1941	0.	1925	65.	1971	382.	1965	545.	1939	432.	1948	142.	1951	-295.	37
38	1942	0.	1943	61.	1905	376.	1927	545.	1980	428.	1937	133.	1989	-303.	38
39	1943	0.	1953	61.	1965	374.	1935	540.	1950	428.	1924	121.	1992	-306.	39
40	1944	0.	1998	60.	1967	364.	1899	535.	1956	419.	1982	113.	1934	-308.	40
41	1945	0.	1976	59.	1934	364.	1907	527.	1974	419.	1970	108.	1997	-315.	41
42	1946	0.	1911	59.	1974	362.	1999	524.	1955	416.	1915	104.	2000	-318.	42
43	1947	0.	1939	59.	1935	358.	1937	520.	1951	407.	1914	103.	1959	-322.	43
44	1948	0.	1944	58.	1938	351.	1997	520.	1985	405.	1979	101.	1927	-328.	44
45	1949	0.	1992	57.	1970	346.	1981	518.	2001	400.	1933	99.	1922	-329.	45
46	1951	0.	1972	56.	1989	342.	1938	513.	1996	399.	1954	95.	1911	-329.	46
47	1952	0.	1971	52.	1991	339.	1950	506.	1933	392.	1917	92.	1916	-331.	47
48	1953	0.	1958	50.	1976	335.	1954	506.	1986	390.	1997	91.	1905	-335.	48
49	1954	0.	1983	47.	1909	329.	1955	506.	1949	382.	1939	86.	1962	-340.	49
50	1956	0.	1905	47.	1997	320.	2000	503.	1906	382.	2001	84.	1898	-340.	50
51	1957	0.	1947	40.	1933	315.	1961	502.	1975	380.	1928	81.	1912	-342.	51
52	1958	0.	1973	38.	1969	313.	1910	495.	1953	376.	1967	79.	1969	-344.	52
53	1959	0.	1902	36.	1936	313.	1915	493.	1903	374.	1947	79.	1919	-346.	53
54	1960	0.	1975	34.	1922	311.	1903	486.	1908	374.	1909	77.	1903	-347.	54
55	1961	0.	1936	34.	1930	310.	1968	486.	1907	371.	1974	70.	1971	-349.	55
56	1962	0.	1984	33.	1903	304.	1911	479.	1945	367.	1963	61.	1908	-351.	56
57	1963	0.	1946	32.	1957	295.	1986	475.	1941	360.	1957	59.	1902	-351.	57
58	1964	0.	1993	32.	1968	295.	1952	472.	1928	360.	1930	54.	1973	-356.	58
59	1965	0.	1926	32.	1948	293.	1974	468.	1993	357.	1905	52.	1958	-360.	59
60	1966	0.	1954	31.	1947	288.	1925	466.	1902	351.	1993	48.	1964	-364.	60
61	1967	0.	1966	31.	1900	286.	1980	445.	1937	349.	1949	47.	1967	-364.	61
62	1968	0.	1982	29.	1982	283.	1956	439.	1924	347.	1992	44.	1988	-365.	62
63	1969	0.	1919	29.	1955	274.	1926	437.	1943	346.	1976	38.	1957	-367.	63
64	1970	0.	1994	29.	1949	272.	1913	421.	1942	338.	1953	34.	1984	-367.	64
65	1971	0.	1915	29.	1939	268.	1901	418.	1960	337.	1931	31.	1960	-369.	65
66	1972	0.	1932	27.	1972	266.	1916	414.	1946	335.	1922	31.	1930	-380.	66

Table 6.5 cont. Ranked Monthly FDD Accumulations at Green Bay, WI.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
67	1973	0.	1918	25.	2000	265.	1942	410.	1977	335.	1983	31.	1994	-381.	67
68	1974	0.	1906	23.	1916	265.	1928	407.	1969	317.	1920	27.	1949	-382.	68
69	1975	0.	1980	22.	1944	261.	1946	407.	1957	313.	1958	16.	1913	-385.	69
70	1976	0.	1962	20.	1950	261.	1909	400.	1995	312.	1908	11.	2002	-389.	70
71	1977	0.	1913	16.	1931	256.	1902	400.	1964	308.	1925	9.	1954	-391.	71
72	1978	0.	1903	16.	1908	252.	1923	391.	1935	308.	1936	7.	1929	-391.	72
73	1979	0.	1967	16.	1993	251.	1958	389.	1926	306.	1988	-11.	1980	-392.	73
74	1980	0.	1961	16.	1907	248.	1908	382.	1997	300.	1919	-13.	1900	-400.	74
75	1981	0.	1964	14.	1985	247.	1993	375.	1898	299.	1986	-16.	1945	-401.	75
76	1982	0.	1945	14.	1941	238.	1967	369.	1966	288.	1961	-25.	1974	-405.	76
77	1983	0.	1995	13.	1999	236.	1975	365.	1952	284.	1911	-27.	1931	-407.	77
78	1984	0.	1955	13.	1975	234.	1953	353.	1925	281.	1935	-32.	1938	-407.	78
79	1985	0.	1916	13.	1901	230.	2001	352.	1909	275.	1998	-38.	1901	-409.	79
80	1986	0.	1929	13.	1921	229.	1964	347.	1940	268.	1929	-40.	1981	-410.	80
81	1987	0.	1981	11.	1987	225.	1949	346.	1990	267.	1994	-49.	1976	-412.	81
82	1988	0.	1969	11.	1992	225.	1941	344.	1944	259.	1907	-50.	1906	-418.	82
83	1990	0.	1908	9.	1958	214.	1960	344.	1981	254.	1966	-52.	1999	-421.	83
84	1991	0.	1949	5.	1954	203.	1973	333.	1973	254.	1991	-56.	1910	-428.	84
85	1992	0.	1928	5.	1994	203.	1947	333.	1932	252.	1985	-67.	1968	-434.	85
86	1993	0.	1923	5.	1953	198.	1898	328.	1919	252.	1999	-69.	1948	-437.	86
87	1994	0.	1907	4.	1906	194.	1983	328.	1991	230.	1990	-71.	1946	-445.	87
88	1995	0.	1921	4.	1929	182.	1987	322.	2000	213.	1918	-81.	1970	-445.	88
89	1996	0.	1989	4.	1937	175.	1995	319.	1927	211.	1942	-81.	1952	-448.	89
90	1998	0.	1974	2.	1913	158.	1998	296.	1911	207.	1981	-83.	1998	-453.	90
91	1999	0.	1909	2.	1988	148.	1939	277.	1930	198.	1995	-86.	1899	-459.	91
92	2000	0.	1910	0.	2002	139.	1992	273.	1938	198.	1898	-92.	1963	-463.	92
93	2001	0.	1900	0.	1980	135.	1900	270.	1961	191.	1987	-97.	1985	-466.	93
94	2002	0.	1924	0.	1983	131.	1914	256.	1921	180.	1902	-99.	2001	-475.	94
95	1898	0.	1935	0.	1998	122.	1919	256.	1976	178.	1921	-106.	1990	-477.	95
96	1899	0.	1940	0.	1960	112.	1921	245.	1983	162.	1927	-122.	1925	-477.	96
97	1900	0.	1942	0.	1942	112.	1906	245.	1915	146.	1938	-130.	1986	-482.	97
98	1901	0.	1963	0.	1940	104.	1931	239.	2002	137.	1903	-139.	1991	-482.	98
99	1902	0.	1985	0.	1966	103.	1934	200.	1992	136.	1977	-158.	1977	-486.	99
100	1903	0.	1988	0.	1912	103.	1932	198.	1954	122.	1968	-187.	1955	-504.	100
101	1904	0.	1991	0.	1914	99.	1989	193.	1987	116.	1973	-230.	1941	-508.	101
102	1905	0.	1999	0.	1995	81.	2002	182.	1999	98.	1946	-230.	1987	-511.	102
103	1908	0.	2000	0.	1924	54.	1944	166.	1984	96.	2000	-238.	1921	-536.	103
104	1909	0.	2002	0.	1919	49.	1990	166.	1931	86.	1945	-281.	1942	-538.	104
105	1910	0.	1914	-4.	1932	-2.	1933	140.	1998	13.	1910	-292.	1915	-610.	105

Severity Index	November	December	January	February	March	April
Upper Bound	year	FDD	year	FDD	year	FDD
Above Normal	1978	148.	1920	621.	1994	795.
Normal	1959	99.	1927	445.	1917	643.
Below Normal	1928	5.	1994	203.	1947	333.
Mild	1991	0.	1914	99.	1989	193.

Table 6.6 Ranked Monthly FDD Accumulations at Milwaukee, WI.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
1	1926	27.	1960	140.	1964	583.	1912	819.	1936	617.	1960	324.	1998	-6.	1
2	1918	16.	1930	133.	1984	547.	1977	734.	1904	527.	1965	209.	1921	-65.	2
3	1924	4.	1948	113.	1986	506.	1963	724.	1917	502.	1899	191.	2000	-74.	3
4	1907	2.	1904	106.	1977	488.	1982	693.	1979	473.	1912	178.	1992	-75.	4
5	1955	2.	1977	104.	1920	482.	1918	673.	1914	459.	1923	148.	1987	-144.	5
6	1903	0.	1978	99.	1990	470.	1979	634.	1905	455.	1906	139.	1907	-151.	6
7	1904	0.	1951	99.	2001	459.	1929	608.	1899	454.	1932	135.	1995	-156.	7
8	1905	0.	1899	94.	1910	459.	1971	596.	1963	452.	1972	133.	1975	-171.	8
9	1906	0.	1931	90.	1904	441.	1970	580.	1978	437.	1926	133.	2002	-178.	9
10	1908	0.	1898	88.	1917	432.	1959	578.	1901	432.	1900	115.	1931	-200.	10
11	1909	0.	1957	86.	1951	421.	1966	563.	1958	425.	1975	106.	1983	-202.	11
12	1910	0.	1959	83.	1925	421.	1924	558.	1912	418.	1971	106.	1950	-211.	12
13	1911	0.	1912	79.	1915	416.	1962	544.	1900	412.	1940	101.	1932	-223.	13
14	1912	0.	1996	71.	1959	412.	1904	536.	1967	407.	1984	96.	1972	-223.	14
15	1913	0.	1952	68.	1918	410.	1994	530.	1947	405.	1950	95.	1920	-225.	15
16	1914	0.	1965	67.	1945	380.	1957	529.	1989	383.	1943	94.	1904	-229.	16
17	1915	0.	1956	61.	1963	371.	1948	527.	1923	376.	1941	85.	1919	-241.	17
18	1916	0.	1938	61.	1943	369.	1985	523.	1929	365.	1944	77.	1944	-252.	18
19	1917	0.	1986	58.	1973	365.	1905	522.	1916	358.	1969	72.	1909	-256.	19
20	1919	0.	1953	50.	1946	356.	1978	515.	1910	356.	1916	72.	1917	-263.	20
21	1920	0.	1925	49.	1926	333.	1920	511.	1972	355.	1978	68.	1926	-266.	21
22	1921	0.	1990	49.	1899	329.	1940	506.	1959	355.	1996	61.	1971	-268.	22
23	1922	0.	1937	49.	1962	317.	1972	499.	1982	355.	1947	59.	1928	-272.	23
24	1923	0.	1979	45.	1898	313.	1936	490.	1913	344.	1934	56.	1936	-272.	24
25	1925	0.	1941	38.	1902	310.	1930	484.	1980	340.	1962	52.	1918	-275.	25
26	1927	0.	1920	36.	1961	301.	1945	454.	1988	337.	1980	49.	1982	-275.	26
27	1928	0.	1927	36.	1956	293.	1976	421.	1968	328.	1970	49.	1961	-275.	27
28	1929	0.	1943	36.	1978	284.	1988	419.	1934	313.	1951	34.	1940	-284.	28
29	1930	0.	1997	33.	1927	275.	1969	418.	1962	306.	1959	34.	1935	-288.	29
30	1931	0.	1970	32.	1965	274.	1951	416.	1965	304.	1937	27.	1979	-304.	30
31	1932	0.	1972	29.	1928	274.	1943	414.	1985	300.	1952	25.	1953	-308.	31
32	1933	0.	1905	27.	1952	274.	1917	412.	1971	295.	1956	20.	1966	-308.	32
33	1934	0.	1939	27.	1971	261.	1981	409.	1920	293.	1982	18.	1978	-313.	33
34	1935	0.	1958	27.	1911	256.	1984	407.	1994	287.	1954	11.	1911	-315.	34
35	1936	0.	2001	25.	1979	256.	1961	391.	1902	286.	1964	9.	1943	-317.	35
36	1937	0.	1982	25.	1981	252.	1965	389.	1933	279.	2002	8.	1996	-318.	36
37	1938	0.	1966	25.	1974	243.	1942	380.	1942	277.	1924	7.	1973	-320.	37
38	1939	0.	1968	25.	1982	243.	1915	373.	1966	274.	1913	5.	1965	-320.	38
39	1940	0.	1946	22.	1936	239.	1991	362.	1918	274.	1955	4.	1937	-322.	39
40	1941	0.	1973	22.	1996	237.	1999	358.	1970	263.	1948	2.	1947	-326.	40
41	1942	0.	1911	22.	1935	236.	1935	356.	1974	257.	1914	-2.	1914	-328.	41
42	1943	0.	1954	20.	1967	236.	1899	355.	1948	256.	1915	-2.	1951	-328.	42
43	1944	0.	1984	18.	1944	236.	1997	353.	1941	254.	1901	-11.	1956	-331.	43
44	1945	0.	1971	18.	1933	236.	1980	349.	1960	252.	1904	-13.	1938	-333.	44
45	1946	0.	1980	16.	1923	225.	1996	344.	1939	247.	1957	-13.	1993	-336.	45
46	1947	0.	1961	16.	1934	220.	1927	340.	1943	245.	1989	-19.	1989	-341.	46
47	1948	0.	1950	16.	1938	218.	1910	337.	1986	244.	1993	-19.	1905	-346.	47
48	1949	0.	1906	16.	1970	214.	1922	324.	1903	241.	1933	-20.	1939	-351.	48
49	1950	0.	1933	14.	1969	209.	1974	322.	1922	241.	2001	-22.	1933	-355.	49
50	1951	0.	1936	14.	1905	209.	1955	320.	1949	238.	1909	-29.	1997	-355.	50
51	1952	0.	1944	14.	1903	205.	1938	317.	1975	236.	1967	-34.	1924	-362.	51
52	1953	0.	1994	12.	1900	202.	1968	317.	1907	236.	1979	-36.	1898	-362.	52
53	1954	0.	1945	11.	1947	198.	1986	314.	1951	236.	1958	-38.	1927	-364.	53
54	1956	0.	1967	11.	1909	182.	1958	313.	1977	234.	1949	-43.	1923	-365.	54
55	1957	0.	1916	9.	1991	181.	1903	304.	1908	234.	1931	-52.	1962	-374.	55
56	1958	0.	1908	7.	1989	175.	1907	301.	1906	229.	1974	-56.	1922	-376.	56
57	1959	0.	1975	7.	1922	171.	1925	295.	2001	228.	1930	-58.	1964	-383.	57
58	1960	0.	1964	5.	1921	169.	1926	284.	1950	227.	1917	-72.	1916	-383.	58
59	1961	0.	1962	5.	1916	160.	1946	283.	1937	225.	1928	-76.	1949	-383.	59
60	1962	0.	1901	5.	1999	159.	1954	281.	1996	223.	1999	-87.	1969	-387.	60
61	1963	0.	1993	4.	1948	158.	1952	279.	1946	220.	1939	-88.	1967	-387.	61
62	1964	0.	1955	4.	1939	157.	1937	275.	1993	208.	1983	-90.	1902	-387.	62
63	1965	0.	1932	4.	1976	153.	1928	270.	1955	205.	1919	-92.	1984	-388.	63
64	1966	0.	1989	4.	1949	151.	1901	263.	1945	203.	1953	-92.	1957	-391.	64
65	1967	0.	1947	4.	2000	147.	1913	257.	1956	203.	1988	-93.	1959	-391.	65
66	1968	0.	1919	4.	1994	146.	1902	257.	1898	196.	1961	-97.	1908	-396.	66

Table 6.6 cont. Ranked Monthly FDD Accumulations at Milwaukee, WI.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
67	1969	0.	1926	2.	1930	144.	1975	254.	1964	194.	1963	-99.	1976	-396.	67
68	1970	0.	1987	2.	1954	140.	1911	254.	1944	189.	1966	-106.	1990	-396.	68
69	1971	0.	1969	2.	1997	139.	2000	252.	1981	187.	1981	-108.	1991	-398.	69
70	1972	0.	1949	2.	1968	137.	1916	250.	1973	184.	1992	-109.	1980	-398.	70
71	1973	0.	1922	0.	1931	131.	1960	245.	1924	173.	1920	-112.	1934	-400.	71
72	1974	0.	1923	0.	2002	130.	1909	236.	1995	172.	1922	-117.	1930	-401.	72
73	1975	0.	1903	0.	1955	122.	1967	236.	1935	155.	1911	-121.	1912	-410.	73
74	1976	0.	1928	0.	1908	117.	1908	232.	1928	142.	1994	-124.	1958	-410.	74
75	1977	0.	1929	0.	1907	117.	1973	229.	1919	139.	1908	-124.	1903	-410.	75
76	1978	0.	1934	0.	1901	115.	1987	225.	1940	135.	1925	-126.	1913	-412.	76
77	1979	0.	1935	0.	1957	110.	1950	225.	1969	133.	1997	-127.	1963	-414.	77
78	1980	0.	1940	0.	1993	109.	1956	221.	1909	130.	1998	-129.	1901	-414.	78
79	1981	0.	1942	0.	1950	104.	2001	218.	1953	128.	1942	-135.	1988	-419.	79
80	1982	0.	1963	0.	1987	96.	1949	203.	1925	128.	1905	-135.	1954	-421.	80
81	1983	0.	1974	0.	1985	91.	1953	200.	1926	122.	1936	-140.	1970	-423.	81
82	1984	0.	1976	0.	1975	88.	1995	199.	1957	117.	1902	-162.	1974	-425.	82
83	1985	0.	1981	0.	1913	83.	1941	198.	1997	102.	1935	-171.	1999	-425.	83
84	1986	0.	1900	0.	1906	81.	1947	198.	1952	95.	1898	-173.	1945	-432.	84
85	1987	0.	1985	0.	1940	77.	1923	189.	1911	94.	1987	-178.	1981	-437.	85
86	1988	0.	1988	0.	1972	77.	1993	188.	1990	80.	1985	-184.	1910	-445.	86
87	1989	0.	1991	0.	1941	76.	1898	185.	1983	76.	1929	-187.	1906	-457.	87
88	1990	0.	1992	0.	1958	72.	1964	182.	1961	61.	1986	-189.	1899	-457.	88
89	1991	0.	1995	0.	1929	68.	1983	173.	1991	56.	1991	-201.	1946	-457.	89
90	1992	0.	1998	0.	1992	68.	1998	151.	1921	43.	1907	-203.	1900	-461.	90
91	1993	0.	1999	0.	1998	64.	1900	144.	1915	43.	1976	-205.	1968	-466.	91
92	1994	0.	2000	0.	1919	56.	1919	137.	1927	31.	1918	-214.	1929	-468.	92
93	1995	0.	2002	0.	1988	53.	1944	135.	1976	27.	1995	-216.	1952	-475.	93
94	1996	0.	1909	0.	1942	52.	1992	118.	1932	27.	1990	-220.	1960	-482.	94
95	1997	0.	1910	0.	1983	47.	1939	103.	1938	23.	1977	-225.	1994	-493.	95
96	1998	0.	1913	0.	1953	43.	1914	99.	2002	3.	1927	-232.	1986	-495.	96
97	1999	0.	1914	0.	1914	38.	1906	94.	1987	-1.	1903	-234.	1948	-504.	97
98	2000	0.	1915	0.	1937	31.	1921	90.	1992	-2.	1921	-239.	2001	-504.	98
99	2001	0.	1917	0.	1924	22.	1931	72.	1999	-5.	1973	-247.	1977	-508.	99
100	2002	0.	1902	0.	1980	20.	1934	67.	1930	-7.	1968	-254.	1925	-517.	100
101	1898	0.	1921	0.	1966	13.	1932	59.	2000	-12.	1938	-286.	1941	-518.	101
102	1899	0.	1983	-2.	1995	1.	1989	42.	1954	-29.	1946	-295.	1942	-526.	102
103	1900	0.	1907	-2.	1932	-4.	2002	37.	1931	-41.	2000	-313.	1955	-558.	103
104	1901	0.	1924	-4.	1960	-14.	1990	17.	1984	-46.	1910	-378.	1985	-563.	104
105	1902	0.	1918	-7.	1912	-16.	1933	-54.	1998	-80.	1945	-382.	1915	-580.	105

Severity Index	November	December	January	February	March	April
Upper Bound	year	FDD	year	FDD	year	FDD
Above Normal	1978	99.	1990	470.	1979	634.
Normal	1990	49.	1899	329.	1940	506.
Below Normal	1985	0.	1940	77.	1923	189.
Mild	1921	0.	1966	13.	1932	59.

Table 6.7 Ranked Monthly FDD Accumulations at Chicago, IL.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
1	1926	16.	1960	99.	1964	581.	1977	661.	1936	479.	1960	225.	1938	0.	1
2	1918	11.	1948	95.	1984	550.	1963	635.	1979	443.	1965	167.	1909	0.	2
3	1900	0.	1951	94.	2001	476.	1912	625.	1978	430.	1912	99.	1921	0.	3
4	1901	0.	1930	92.	1986	465.	1982	616.	1904	425.	1984	92.	1953	0.	4
5	1902	0.	1904	86.	1990	448.	1979	603.	1963	425.	1900	92.	1908	0.	5
6	1903	0.	1899	83.	1910	391.	1918	581.	1905	421.	1932	77.	1998	0.	6
7	1904	0.	1978	77.	1977	391.	1985	546.	1901	419.	1899	68.	1931	0.	7
8	1905	0.	1931	76.	1951	385.	1978	506.	1899	389.	1926	58.	2000	0.	8
9	1906	0.	1959	72.	1904	367.	1959	493.	1900	346.	1906	54.	1919	0.	9
10	1907	0.	1977	70.	1920	333.	1994	493.	1967	342.	1996	31.	1992	0.	10
11	1908	0.	1965	63.	1946	328.	1966	491.	1989	341.	1947	5.	1987	-6.	11
12	1909	0.	1956	56.	1915	326.	1970	488.	1917	340.	1978	5.	1954	-7.	12
13	1910	0.	1957	54.	1963	324.	1940	488.	1958	337.	1998	0.	1927	-9.	13
14	1911	0.	1898	45.	1918	319.	1962	475.	1914	328.	1941	-2.	1907	-14.	14
15	1912	0.	1953	40.	1917	311.	1984	462.	1985	327.	1943	-7.	2002	-21.	15
16	1913	0.	1986	40.	1945	310.	1929	448.	1947	324.	1940	-9.	1976	-38.	16
17	1914	0.	1938	34.	1952	299.	1904	445.	1902	313.	1944	-11.	1911	-47.	17
18	1915	0.	1925	31.	1959	299.	1948	434.	1980	304.	1980	-22.	1983	-77.	18
19	1916	0.	1937	27.	1961	284.	1905	430.	1912	301.	1950	-25.	1932	-79.	19
20	1917	0.	1943	25.	1943	281.	1957	410.	1982	292.	1934	-27.	1939	-97.	20
21	1919	0.	1941	23.	1925	281.	1971	405.	1929	292.	1937	-29.	1933	-104.	21
22	1920	0.	1979	22.	1902	265.	1936	403.	1994	273.	1923	-31.	1973	-104.	22
23	1921	0.	2001	20.	1962	259.	1920	403.	1923	272.	1962	-43.	1990	-110.	23
24	1922	0.	1905	20.	1973	250.	1945	394.	1988	264.	1964	-54.	1946	-121.	24
25	1923	0.	1966	20.	1978	243.	1997	389.	1934	257.	1931	-54.	1995	-127.	25
26	1924	0.	1996	19.	1899	239.	1972	387.	1968	247.	1972	-61.	1942	-133.	26
27	1925	0.	1968	18.	1965	227.	1924	380.	1972	245.	1975	-63.	1935	-149.	27
28	1927	0.	1997	18.	1982	223.	1976	376.	1986	226.	1901	-65.	1922	-157.	28
29	1928	0.	1911	16.	1926	220.	1988	372.	1965	216.	1921	-68.	1949	-160.	29
30	1929	0.	1984	16.	1898	216.	1930	369.	1959	216.	2001	-72.	1906	-191.	30
31	1930	0.	1961	16.	1936	211.	1961	365.	1960	214.	1993	-75.	1955	-193.	31
32	1931	0.	1982	16.	1900	194.	1991	342.	1962	214.	1969	-76.	1913	-205.	32
33	1932	0.	1994	15.	1956	191.	1969	338.	1993	209.	1916	-77.	1914	-223.	33
34	1933	0.	1939	14.	1979	191.	1965	328.	1903	202.	1954	-79.	1898	-227.	34
35	1934	0.	1912	14.	1933	189.	1981	293.	1916	202.	1924	-81.	1999	-228.	35
36	1935	0.	1954	13.	1903	189.	1943	290.	1910	202.	1915	-85.	1957	-247.	36
37	1936	0.	1920	13.	1996	187.	1999	286.	1913	200.	1970	-88.	1925	-256.	37
38	1937	0.	1958	13.	1944	187.	1986	286.	1920	185.	2002	-89.	1950	-259.	38
39	1938	0.	1936	13.	1974	187.	1899	281.	1941	176.	1971	-90.	1904	-261.	39
40	1939	0.	1945	13.	1935	182.	1980	268.	1966	175.	1982	-95.	1991	-262.	40
41	1940	0.	1906	13.	1981	180.	1951	265.	1970	167.	1904	-95.	1928	-266.	41
42	1941	0.	1990	12.	1911	176.	1996	261.	1996	167.	1913	-99.	1910	-281.	42
43	1942	0.	1973	11.	1927	169.	1968	256.	1933	167.	1952	-101.	1937	-292.	43
44	1943	0.	1980	9.	1991	166.	1955	254.	1948	166.	1951	-101.	1945	-293.	44
45	1944	0.	1944	9.	1938	164.	1915	245.	1950	162.	1933	-104.	1926	-295.	45
46	1945	0.	1964	7.	1905	162.	1917	241.	1975	162.	1909	-113.	1930	-295.	46
47	1946	0.	1927	7.	1928	158.	1995	239.	2001	158.	1919	-113.	1956	-297.	47
48	1947	0.	1995	6.	2000	156.	1903	238.	1907	157.	1914	-117.	1944	-297.	48
49	1948	0.	1916	5.	1967	155.	2001	230.	1964	157.	1959	-119.	1975	-311.	49
50	1949	0.	1975	5.	1969	153.	1974	225.	1942	155.	1999	-120.	1941	-313.	50
51	1950	0.	1955	5.	1989	146.	1927	221.	1937	155.	1992	-122.	1968	-320.	51
52	1951	0.	1972	5.	1994	136.	1922	220.	1908	151.	1948	-126.	1934	-320.	52
53	1952	0.	1989	5.	1968	133.	1928	212.	1995	151.	1958	-126.	1989	-329.	53
54	1953	0.	1946	4.	1939	133.	1938	207.	1977	146.	1953	-128.	1920	-331.	54
55	1954	0.	1950	4.	1997	128.	1902	203.	1974	133.	1930	-128.	1916	-331.	55
56	1955	0.	1914	0.	1970	128.	1942	198.	1918	133.	1956	-135.	1961	-340.	56
57	1956	0.	1915	0.	2002	127.	1910	194.	1951	130.	1979	-137.	1952	-340.	57
58	1957	0.	1917	0.	1999	126.	1935	193.	1906	126.	1967	-139.	1974	-342.	58
59	1958	0.	1900	0.	1921	122.	2000	193.	1939	124.	1989	-143.	1936	-344.	59
60	1959	0.	1919	0.	1947	115.	1987	190.	1898	122.	1928	-153.	1918	-360.	60
61	1960	0.	1921	0.	1923	113.	1925	187.	1949	122.	1955	-160.	1903	-365.	61
62	1961	0.	1922	0.	1971	106.	1901	185.	1943	119.	1983	-169.	1982	-374.	62
63	1962	0.	1923	0.	1930	106.	1958	178.	1981	113.	1957	-171.	1940	-378.	63
64	1963	0.	1924	0.	1934	104.	1983	178.	1971	110.	1949	-171.	1972	-382.	64
65	1964	0.	1901	0.	1916	103.	1926	175.	1946	95.	1981	-173.	1917	-385.	65
66	1965	0.	1928	0.	1993	99.	1993	173.	1973	95.	1961	-185.	1901	-391.	66

Table 6.7 cont. Ranked Monthly FDD Accumulations at Chicago, IL.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
67	1966	0.	1929	0.	1949	99.	1937	164.	1945	90.	1939	-187.	1958	-391.	67
68	1967	0.	1932	0.	1954	92.	1946	162.	1924	90.	1987	-189.	1923	-392.	68
69	1968	0.	1933	0.	1922	92.	1960	162.	1944	90.	1997	-191.	1993	-395.	69
70	1969	0.	1934	0.	1976	86.	1907	160.	1955	88.	1988	-195.	1996	-396.	70
71	1970	0.	1935	0.	1901	85.	1975	148.	1940	81.	1902	-202.	1924	-398.	71
72	1971	0.	1940	0.	1931	72.	1952	148.	1997	79.	1974	-205.	1966	-398.	72
73	1972	0.	1942	0.	1940	67.	1941	139.	1956	77.	1994	-206.	1984	-400.	73
74	1973	0.	1947	0.	1975	63.	1954	135.	1922	76.	1917	-207.	1979	-401.	74
75	1974	0.	1949	0.	1948	61.	1967	133.	1935	67.	1905	-227.	1997	-403.	75
76	1975	0.	1952	0.	1987	56.	1964	128.	1969	61.	1911	-227.	1943	-407.	76
77	1976	0.	1962	0.	1992	52.	1973	119.	1928	50.	1985	-228.	1905	-407.	77
78	1977	0.	1963	0.	1998	47.	1992	114.	1983	41.	1922	-229.	1915	-414.	78
79	1978	0.	1967	0.	1929	38.	1949	113.	1919	40.	1966	-232.	1981	-414.	79
80	1979	0.	1969	0.	1919	38.	1950	113.	1926	29.	1942	-234.	1929	-428.	80
81	1980	0.	1970	0.	1988	35.	1956	110.	1991	21.	1936	-238.	1902	-432.	81
82	1981	0.	1971	0.	1985	33.	1908	104.	1961	18.	1925	-239.	1965	-436.	82
83	1982	0.	1974	0.	1907	27.	1900	103.	1990	14.	1963	-241.	1980	-436.	83
84	1983	0.	1976	0.	1983	25.	1898	103.	1953	4.	1920	-254.	1947	-439.	84
85	1984	0.	1981	0.	1909	23.	1947	103.	1925	-5.	1898	-257.	1900	-445.	85
86	1985	0.	1983	0.	1912	22.	1916	101.	1909	-11.	1986	-260.	1951	-446.	86
87	1986	0.	1985	0.	1942	20.	1909	101.	1952	-11.	1995	-263.	1959	-463.	87
88	1987	0.	1987	0.	1913	18.	1998	94.	2002	-11.	1903	-263.	1978	-464.	88
89	1988	0.	1988	0.	1914	13.	1953	90.	1911	-11.	1908	-265.	1988	-476.	89
90	1989	0.	1991	0.	1972	13.	1911	90.	1957	-38.	1991	-267.	1969	-477.	90
91	1990	0.	1992	0.	1950	9.	1913	83.	1921	-41.	2000	-284.	1967	-491.	91
92	1991	0.	1993	0.	1924	9.	1932	47.	1992	-44.	1935	-292.	1971	-500.	92
93	1992	0.	1998	0.	1906	9.	1923	40.	1932	-45.	1990	-297.	1912	-504.	93
94	1993	0.	1999	0.	1955	5.	1919	34.	1987	-52.	1927	-310.	1962	-504.	94
95	1994	0.	2000	0.	1908	5.	1944	23.	1984	-62.	1918	-317.	1964	-511.	95
96	1995	0.	2002	0.	1932	2.	1939	14.	1999	-64.	1907	-328.	1899	-540.	96
97	1996	0.	1902	0.	1953	-4.	1931	2.	2000	-65.	1968	-333.	1963	-554.	97
98	1997	0.	1903	0.	1995	-6.	1914	-4.	1915	-70.	1938	-335.	1994	-580.	98
99	1998	0.	1907	0.	1980	-9.	2002	-6.	1938	-72.	1976	-335.	1986	-583.	99
100	1999	0.	1908	0.	1957	-9.	1934	-9.	1927	-81.	1929	-349.	1970	-590.	100
101	2000	0.	1909	0.	1958	-9.	1921	-11.	1976	-92.	1973	-371.	1960	-603.	101
102	2001	0.	1910	0.	1966	-18.	1906	-11.	1931	-95.	1977	-400.	2001	-604.	102
103	2002	0.	1913	0.	1941	-22.	1989	-20.	1998	-141.	1946	-472.	1985	-617.	103
104	1898	0.	1926	-2.	1937	-29.	1990	-67.	1930	-142.	1910	-508.	1948	-628.	104
105	1899	0.	1918	-11.	1960	-76.	1933	-148.	1954	-155.	1945	-515.	1977	-689.	105

Severity Index	November	December	January	February	March	April
Upper Bound	year	FDD	year	FDD	year	FDD
Above Normal	1899	83.	1910	391.	1918	581.
Normal	1979	22.	1902	265.	1936	403.
Below Normal	1981	0.	1909	23.	1947	103.
Mild	1909	0.	1958	-9.	1921	-11.

Table 6.8 Ranked Monthly FDD Accumulations at Traverse City, MI.

Rank	October		November		December		January		February		March		April		Rank	
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD		
1	1926		9.	1930	106.	1990	490.	1912	698.	1904	796.	1899	356.	1907	-72.	1
2	1914		2.	1898	97.	1977	445.	1918	641.	1979	639.	1960	346.	1950	-83.	2
3	1927		2.	1960	95.	1984	433.	1994	623.	1963	608.	1965	333.	1904	-95.	3
4	1918		2.	1951	85.	1959	416.	1977	607.	1936	590.	1912	311.	1965	-113.	4
5	1903		0.	1952	85.	1964	401.	1963	607.	1899	580.	1900	302.	1905	-128.	5
6	1904		0.	1978	77.	1904	391.	1982	590.	1978	576.	1926	286.	1920	-135.	6
7	1905		0.	1904	77.	1910	376.	1904	585.	1917	545.	1984	281.	1936	-140.	7
8	1906		0.	1990	76.	2001	354.	1979	574.	1934	535.	1916	274.	1909	-148.	8
9	1907		0.	1959	70.	1920	353.	1920	544.	1962	499.	1923	274.	1972	-158.	9
10	1908		0.	1948	68.	1961	344.	1945	509.	1905	499.	1906	247.	1923	-167.	10
11	1909		0.	1937	68.	1917	337.	1965	506.	1994	480.	1969	245.	1932	-169.	11
12	1910		0.	1957	65.	1981	329.	1966	504.	1912	475.	1943	241.	1928	-175.	12
13	1911		0.	1899	63.	1918	329.	1970	500.	1968	472.	1972	236.	1943	-182.	13
14	1912		0.	1979	63.	1925	328.	1929	488.	1959	457.	1970	223.	1996	-189.	14
15	1913		0.	1956	59.	1986	325.	1899	479.	1929	454.	1950	221.	1979	-191.	15
16	1915		0.	1965	56.	1915	295.	1948	479.	1967	446.	1956	221.	1926	-193.	16
17	1916		0.	1931	56.	1899	293.	1961	477.	1920	445.	1934	220.	1975	-198.	17
18	1917		0.	1977	52.	1979	293.	1959	475.	1914	443.	1978	211.	1939	-198.	18
19	1919		0.	1996	50.	1965	288.	1978	473.	1924	439.	1996	209.	1983	-202.	19
20	1920		0.	1934	47.	1911	279.	1943	468.	1913	437.	1971	202.	1982	-203.	20
21	1921		0.	1975	45.	1996	273.	1962	459.	1974	428.	1989	199.	1966	-211.	21
22	1922		0.	1986	43.	1927	270.	1925	446.	1923	423.	1959	189.	1956	-214.	22
23	1923		0.	1950	41.	1974	268.	1957	446.	1980	423.	1980	185.	1917	-216.	23
24	1924		0.	1953	38.	1945	266.	1905	445.	1989	407.	1932	182.	1940	-216.	24
25	1925		0.	1968	38.	1946	266.	1984	444.	1900	407.	1937	167.	1978	-216.	25
26	1928		0.	1943	38.	1905	265.	1976	432.	1965	403.	1944	167.	1914	-218.	26
27	1929		0.	1918	38.	1923	263.	1924	432.	1958	396.	1963	164.	1944	-218.	27
28	1930		0.	1939	31.	1962	261.	1981	421.	1993	383.	1924	158.	1961	-223.	28
29	1931		0.	1920	31.	1951	254.	1971	416.	1901	382.	1941	155.	1921	-229.	29
30	1932		0.	1941	29.	1978	252.	1985	412.	1916	376.	1952	149.	1935	-232.	30
31	1933		0.	1980	27.	1956	250.	1930	410.	1972	374.	1914	148.	1947	-236.	31
32	1934		0.	1972	25.	1973	250.	1996	395.	1970	371.	1901	146.	1898	-239.	32
33	1935		0.	1912	25.	1963	250.	1917	394.	1985	370.	1947	146.	1995	-241.	33
34	1936		0.	1976	23.	1943	248.	1954	383.	1988	366.	1964	144.	1918	-243.	34
35	1937		0.	1938	22.	1930	247.	1972	376.	1918	365.	1940	142.	1953	-243.	35
36	1938		0.	1905	22.	1938	247.	1968	369.	1948	365.	1982	140.	1933	-254.	36
37	1939		0.	1927	22.	1902	236.	1927	358.	1977	360.	1975	139.	1930	-254.	37
38	1940		0.	1970	22.	1969	234.	1936	356.	1908	351.	1962	137.	1993	-266.	38
39	1941		0.	1925	20.	1934	230.	1999	356.	1973	344.	1948	137.	1971	-266.	39
40	1942		0.	1926	20.	1944	220.	1980	355.	1947	344.	1939	135.	1924	-266.	40
41	1943		0.	1983	20.	1936	220.	1988	355.	1969	338.	1904	128.	1992	-268.	41
42	1944		0.	1971	16.	1935	218.	1940	347.	1907	335.	1954	126.	1901	-270.	42
43	1945		0.	1954	14.	1967	211.	1951	342.	1996	330.	1928	126.	1911	-270.	43
44	1946		0.	1944	14.	1947	205.	1938	337.	1995	323.	1909	126.	1989	-275.	44
45	1947		0.	1967	14.	1952	203.	1910	333.	1910	320.	1930	124.	1934	-281.	45
46	1948		0.	1984	13.	1970	202.	1923	329.	1986	318.	1967	121.	2000	-288.	46
47	1949		0.	1997	13.	1928	200.	1997	327.	1942	317.	1915	117.	1959	-290.	47
48	1950		0.	1933	13.	1898	200.	2000	324.	1964	315.	1955	115.	1937	-293.	48
49	1951		0.	1946	13.	1989	198.	1969	322.	1971	313.	1931	113.	1908	-293.	49
50	1952		0.	1995	11.	1971	193.	1955	319.	1939	311.	1933	112.	1919	-295.	50
51	1953		0.	1973	11.	1955	191.	1974	319.	1982	310.	1913	110.	1951	-299.	51
52	1954		0.	1902	11.	1976	185.	1942	317.	1950	306.	1905	104.	1980	-299.	52
53	1955		0.	1966	11.	1926	184.	1935	315.	1966	306.	1951	101.	1997	-301.	53
54	1956		0.	1906	11.	1994	182.	1986	314.	1946	301.	2001	98.	1903	-308.	54
55	1957		0.	1913	9.	1948	178.	1915	313.	1902	290.	1911	92.	1988	-315.	55
56	1958		0.	1945	9.	1907	166.	1911	308.	1960	288.	1974	85.	1967	-322.	56
57	1959		0.	1947	9.	1933	166.	1922	295.	1933	286.	1979	85.	1922	-322.	57
58	1960		0.	1958	7.	1909	164.	1907	293.	1943	286.	1993	71.	1962	-322.	58
59	1961		0.	2001	7.	2000	162.	1956	277.	1961	281.	1992	64.	1984	-325.	59
60	1962		0.	1964	7.	1999	161.	1958	275.	1955	279.	1957	63.	1916	-326.	60
61	1963		0.	1916	7.	1949	160.	1909	275.	1928	277.	1917	63.	1912	-328.	61
62	1964		0.	1903	7.	1916	160.	1903	272.	1956	272.	1988	61.	1973	-328.	62
63	1965		0.	1987	6.	1968	155.	1964	266.	2001	264.	1949	50.	1913	-333.	63
64	1966		0.	1961	5.	1900	155.	1901	266.	1945	261.	1994	44.	1902	-335.	64
65	1967		0.	1917	5.	1901	151.	1993	266.	1935	261.	1997	41.	1927	-337.	65
66	1968		0.	1936	5.	1982	148.	1902	263.	1951	259.	1958	36.	1949	-342.	66

Table 6.8 cont. Ranked Monthly FDD Accumulations at Traverse City, MI.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
67	1969	0.	1969	4.	1991	141.	1983	261.	1903	257.	1999	31.	1964	-342.	67
68	1970	0.	1994	4.	1931	140.	1928	257.	1906	256.	1985	19.	1994	-344.	68
69	1971	0.	2000	2.	1922	124.	1926	254.	1898	254.	1922	16.	1954	-344.	69
70	1972	0.	1923	2.	1993	120.	1967	245.	1926	252.	1936	14.	1963	-346.	70
71	1973	0.	1901	2.	1958	119.	1937	241.	1944	245.	1961	2.	1929	-347.	71
72	1974	0.	1932	2.	1950	115.	1898	239.	1922	238.	1908	0.	1987	-348.	72
73	1975	0.	1982	2.	1921	113.	1946	234.	1952	236.	1983	-2.	1946	-351.	73
74	1976	0.	1940	0.	1992	112.	1947	234.	1909	234.	1920	-11.	1969	-353.	74
75	1977	0.	1942	0.	1903	112.	1953	230.	1975	230.	1942	-11.	1900	-358.	75
76	1978	0.	1949	0.	1997	109.	1960	230.	1911	225.	1935	-14.	1957	-358.	76
77	1979	0.	1955	0.	1954	99.	1973	230.	1941	218.	1976	-23.	1931	-360.	77
78	1980	0.	1962	0.	1957	92.	1995	228.	1997	206.	1953	-25.	1989	-364.	78
79	1981	0.	1963	0.	1908	92.	1952	225.	1925	203.	1986	-26.	1974	-364.	79
80	1982	0.	1974	0.	1939	92.	1950	223.	1957	203.	1925	-31.	1958	-365.	80
81	1983	0.	1981	0.	1980	90.	1941	220.	1949	203.	1966	-41.	1945	-369.	81
82	1984	0.	1985	0.	1987	88.	1939	211.	1938	203.	1990	-54.	1960	-383.	82
83	1985	0.	1988	0.	1985	80.	1975	207.	1990	196.	1981	-56.	1952	-385.	83
84	1986	0.	1989	0.	1940	79.	1992	194.	1937	194.	1919	-59.	1999	-387.	84
85	1987	0.	1991	0.	1966	67.	1987	189.	1953	189.	1918	-63.	1981	-387.	85
86	1988	0.	1992	0.	1983	67.	1949	180.	1940	185.	1907	-63.	1906	-394.	86
87	1989	0.	1993	0.	1953	67.	1913	178.	1981	175.	1898	-67.	1938	-409.	87
88	1990	0.	1998	0.	1929	63.	1908	178.	1930	175.	1902	-79.	1968	-410.	88
89	1991	0.	1999	0.	1937	63.	1931	175.	1927	167.	1968	-81.	1977	-412.	89
90	1992	0.	1907	0.	1941	59.	1900	169.	1919	166.	1995	-88.	1970	-414.	90
91	1993	0.	1908	0.	1988	56.	2001	167.	2000	163.	1987	-92.	1990	-419.	91
92	1994	0.	1909	0.	1942	56.	1916	167.	1987	157.	1927	-101.	1976	-421.	92
93	1995	0.	1910	0.	1972	52.	1934	160.	1915	153.	1929	-110.	1910	-434.	93
94	1996	0.	1911	0.	1919	47.	1919	144.	1921	146.	1977	-115.	2001	-441.	94
95	1997	0.	1900	0.	1998	46.	1998	143.	1992	136.	1938	-124.	1925	-445.	95
96	1998	0.	1915	0.	1913	45.	1989	135.	1976	133.	1921	-157.	1948	-445.	96
97	1999	0.	1919	0.	1912	36.	1921	130.	1983	124.	1910	-167.	1985	-450.	97
98	2000	0.	1921	0.	1906	36.	1944	108.	1932	119.	1903	-167.	1941	-468.	98
99	2001	0.	1922	0.	1960	34.	1914	94.	1999	116.	2000	-216.	1986	-472.	99
100	1898	0.	1924	0.	1924	22.	1906	86.	1931	81.	1973	-216.	1942	-475.	100
101	1899	0.	1928	0.	1975	20.	1990	71.	1984	80.	1945	-283.	1915	-499.	101
102	1900	0.	1929	0.	1932	14.	1933	63.	1954	67.	1946	-295.	1955	-513.	102
103	1901	0.	1935	0.	1914	0.	1932	14.	1991	-999.	1991	-999.	1991	-999.	103
104	1902	0.	1914	-2.	1995	-6.	2002	-999.	1998	-999.	1998	-999.	1998	-999.	104
105	2002	-999.	2002	-999.	2002	-999.	1991	-999.	2002	-999.	2002	-999.	2002	-999.	105

Severity Index	November	December	January	February	March	April
Upper Bound	year	FDD	year	FDD	year	FDD
Above Normal	1978	77.	1904	391.	1978	590.
Normal	1986	43.	1927	270.	1923	423.
Below Normal	1991	0.	1966	67.	1953	189.
Mild	1928	0.	1975	20.	1990	71.

Table 6.9 Ranked Monthly FDD Accumulations at Muskegon, MI.

Rank	October		November		December		January		February		March		April		Rank	
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD		
1	1939		4.	1951	83.	1977	355.	1912	650.	1904	549.	1912	281.	1998	0.	1
2	1931		2.	1978	70.	1984	350.	1918	567.	1979	490.	1960	239.	2000	0.	2
3	1918		2.	1904	70.	1990	348.	1977	549.	1899	477.	1899	216.	2002	-28.	3
4	1901		0.	1960	61.	1959	322.	1982	495.	1978	457.	1900	211.	1931	-76.	4
5	1902		0.	1899	59.	2001	300.	1994	490.	1914	446.	1926	164.	1983	-88.	5
6	1903		0.	1930	58.	1920	299.	1920	473.	1936	436.	1984	154.	1987	-89.	6
7	1904		0.	1977	54.	1910	297.	1963	468.	1963	427.	1923	148.	1921	-92.	7
8	1905		0.	1959	50.	1918	295.	1979	466.	1912	421.	1906	135.	1907	-133.	8
9	1906		0.	1957	45.	1964	286.	1904	448.	1901	419.	1950	112.	1992	-141.	9
10	1907		0.	1948	43.	1904	283.	1966	407.	1917	414.	1916	108.	1976	-167.	10
11	1908		0.	1996	42.	1917	274.	1959	405.	1905	410.	1970	104.	1953	-167.	11
12	1909		0.	1956	38.	1963	234.	1970	396.	1934	401.	1965	92.	1932	-173.	12
13	1910		0.	1952	36.	1915	232.	1984	395.	1900	371.	1978	88.	1919	-180.	13
14	1911		0.	1898	36.	1925	232.	1978	387.	1902	342.	1932	88.	1950	-185.	14
15	1912		0.	1979	32.	1986	230.	1971	373.	1974	328.	1996	87.	1973	-202.	15
16	1913		0.	1931	31.	1996	224.	1948	373.	1923	324.	1971	83.	1920	-212.	16
17	1914		0.	1965	25.	1961	220.	1905	367.	1929	322.	1940	83.	1991	-212.	17
18	1915		0.	1972	23.	1981	218.	1985	360.	1994	320.	1934	77.	1926	-220.	18
19	1916		0.	1953	23.	1951	216.	1981	353.	1920	315.	1956	76.	1946	-220.	19
20	1917		0.	1968	22.	1902	209.	1924	338.	1907	313.	1904	61.	1995	-227.	20
21	1919		0.	1975	22.	1927	209.	1962	329.	1962	311.	1959	56.	1938	-238.	21
22	1920		0.	1926	20.	1952	207.	1957	326.	1967	310.	1941	56.	1982	-245.	22
23	1921		0.	1997	19.	1911	205.	1940	319.	1958	308.	1915	56.	1923	-245.	23
24	1922		0.	1937	18.	1974	200.	1972	319.	1916	301.	1972	52.	1928	-247.	24
25	1923		0.	1925	18.	1905	196.	1996	317.	1908	301.	1982	50.	1945	-261.	25
26	1924		0.	1918	16.	1946	193.	1929	315.	1982	293.	1944	43.	1990	-266.	26
27	1925		0.	1905	14.	1956	189.	1961	311.	1985	292.	1980	43.	1933	-266.	27
28	1926		0.	1941	14.	1969	184.	1945	301.	1980	288.	1909	41.	1975	-270.	28
29	1927		0.	1920	13.	1971	184.	1899	299.	1968	286.	1969	41.	1904	-270.	29
30	1928		0.	1970	11.	1899	182.	1999	297.	1913	284.	1901	40.	1936	-272.	30
31	1929		0.	1986	11.	1970	178.	1907	290.	1977	283.	1975	34.	1979	-275.	31
32	1930		0.	1950	11.	1978	178.	1930	288.	1972	279.	1924	32.	1917	-279.	32
33	1932		0.	1943	9.	1979	175.	1968	288.	1959	279.	1937	31.	1961	-284.	33
34	1933		0.	1938	9.	1962	162.	1925	288.	1918	277.	1952	27.	1909	-288.	34
35	1934		0.	1980	9.	1945	160.	1910	284.	1910	274.	1943	27.	1937	-288.	35
36	1935		0.	1961	7.	1994	152.	1922	283.	1947	270.	1954	23.	1943	-290.	36
37	1936		0.	1984	6.	1903	151.	1936	283.	1988	270.	1947	23.	1918	-293.	37
38	1937		0.	1990	5.	1936	144.	1969	281.	1924	261.	1989	9.	1996	-298.	38
39	1938		0.	1966	5.	1930	142.	1988	276.	1970	254.	1962	9.	1939	-304.	39
40	1940		0.	1958	5.	1943	140.	1943	275.	1989	254.	1914	-2.	1954	-304.	40
41	1941		0.	1982	5.	1926	140.	1917	270.	1906	248.	1913	-2.	1942	-306.	41
42	1942		0.	1994	5.	1973	140.	1954	263.	1942	245.	2002	-2.	1956	-311.	42
43	1943		0.	1954	5.	1935	140.	1976	261.	1898	229.	1920	-5.	1934	-311.	43
44	1944		0.	1967	4.	1934	139.	1980	257.	1993	228.	1917	-11.	1944	-313.	44
45	1945		0.	1945	4.	1938	137.	1903	256.	1986	226.	1930	-13.	1972	-315.	45
46	1946		0.	1911	2.	1944	135.	1997	254.	1996	223.	1933	-14.	1997	-316.	46
47	1947		0.	1912	2.	1898	133.	1902	239.	1973	223.	1928	-14.	1940	-317.	47
48	1948		0.	1906	2.	1900	126.	1965	238.	1950	221.	1955	-16.	1949	-326.	48
49	1949		0.	1908	2.	1989	123.	1915	232.	1995	220.	1911	-27.	1971	-326.	49
50	1950		0.	1995	0.	1907	122.	1927	230.	1903	218.	1951	-27.	1935	-326.	50
51	1951		0.	1998	0.	1933	121.	1986	230.	1971	202.	2001	-27.	1911	-328.	51
52	1952		0.	1999	0.	1916	119.	1951	229.	1941	202.	1974	-29.	1951	-331.	52
53	1953		0.	2000	0.	1949	117.	1991	226.	1933	202.	1998	-31.	1922	-338.	53
54	1954		0.	2001	0.	1991	104.	1901	225.	1948	200.	1999	-33.	1927	-342.	54
55	1955		0.	2002	0.	1909	103.	1958	225.	1960	198.	1994	-34.	1905	-342.	55
56	1956		0.	1901	0.	1999	101.	1956	223.	1956	193.	1939	-36.	1966	-346.	56
57	1957		0.	1902	0.	1982	97.	1955	221.	1966	191.	1908	-40.	1898	-346.	57
58	1958		0.	1903	0.	1965	97.	1938	220.	1955	187.	1922	-45.	1916	-347.	58
59	1959		0.	1907	0.	1921	95.	1974	218.	1935	184.	1967	-47.	1993	-347.	59
60	1960		0.	1909	0.	1928	94.	2000	201.	1965	182.	1957	-49.	1924	-353.	60
61	1961		0.	1910	0.	1939	92.	1935	198.	1946	182.	1979	-50.	1999	-356.	61
62	1962		0.	1913	0.	1967	92.	1911	194.	1922	178.	1997	-53.	1902	-358.	62
63	1963		0.	1914	0.	1947	92.	1908	180.	1969	176.	1925	-54.	1908	-360.	63
64	1964		0.	1915	0.	1922	90.	1993	177.	1951	171.	1931	-54.	1989	-364.	64
65	1965		0.	1916	0.	1997	90.	1926	175.	1926	169.	1949	-56.	1930	-364.	65
66	1966		0.	1917	0.	1976	88.	1942	173.	1975	169.	1992	-58.	1959	-364.	66

Table 6.9 cont. Ranked Monthly FDD Accumulations at Muskegon, MI.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
67	1967	0.	1919	0.	2000	88.	1987	172.	1940	158.	1918	-61.	1965	-374.	67
68	1968	0.	1921	0.	1901	86.	1909	171.	1937	151.	1993	-62.	1978	-382.	68
69	1969	0.	1922	0.	1955	86.	1900	166.	1939	149.	1919	-65.	1980	-383.	69
70	1970	0.	1923	0.	1914	85.	1941	158.	2001	147.	1963	-74.	1962	-383.	70
71	1971	0.	1924	0.	1931	81.	1983	158.	1943	146.	1988	-75.	1903	-389.	71
72	1972	0.	1927	0.	2002	77.	1898	155.	1949	144.	1964	-76.	1974	-394.	72
73	1973	0.	1928	0.	1968	76.	1952	155.	1945	133.	1905	-76.	1967	-401.	73
74	1974	0.	1929	0.	1923	74.	1923	149.	1909	131.	1948	-83.	1947	-405.	74
75	1975	0.	1932	0.	1906	70.	1960	144.	1997	129.	1958	-85.	1906	-407.	75
76	1976	0.	1933	0.	1940	67.	1995	143.	1944	126.	1981	-90.	1913	-410.	76
77	1977	0.	1934	0.	1992	50.	1953	140.	1957	122.	1985	-97.	1984	-410.	77
78	1978	0.	1935	0.	1948	50.	1946	139.	1952	117.	1936	-103.	1994	-412.	78
79	1979	0.	1936	0.	1919	49.	1973	131.	1919	117.	1898	-103.	1957	-414.	79
80	1980	0.	1900	0.	1908	49.	1916	126.	1961	113.	1953	-108.	1964	-416.	80
81	1981	0.	1940	0.	1912	43.	1928	124.	1911	112.	1961	-117.	1988	-417.	81
82	1982	0.	1942	0.	1998	38.	1975	122.	1964	112.	1942	-119.	1912	-423.	82
83	1983	0.	1944	0.	1993	37.	1913	122.	1981	110.	1935	-121.	1914	-430.	83
84	1984	0.	1946	0.	1985	36.	1950	121.	1925	103.	1995	-136.	1952	-430.	84
85	1985	0.	1947	0.	1954	34.	1949	119.	1928	85.	1983	-137.	1970	-432.	85
86	1986	0.	1949	0.	1987	33.	1947	117.	1990	84.	1986	-137.	1958	-432.	86
87	1987	0.	1955	0.	1988	33.	2001	112.	1953	81.	1907	-142.	1941	-439.	87
88	1988	0.	1962	0.	1975	31.	1967	106.	1938	77.	1966	-146.	1969	-443.	88
89	1989	0.	1963	0.	1953	29.	1921	104.	1921	68.	1927	-148.	1960	-445.	89
90	1990	0.	1964	0.	1980	27.	1939	97.	1991	66.	1987	-154.	1925	-445.	90
91	1991	0.	1969	0.	1929	27.	1937	95.	1930	59.	1990	-160.	1901	-445.	91
92	1992	0.	1971	0.	1958	20.	1992	93.	1992	56.	1929	-166.	1981	-452.	92
93	1993	0.	1973	0.	1966	18.	1964	92.	1932	52.	1976	-173.	1968	-457.	93
94	1994	0.	1974	0.	1972	16.	1914	90.	1983	52.	1902	-173.	1915	-466.	94
95	1995	0.	1976	0.	1983	16.	1998	84.	1927	50.	1921	-175.	1963	-468.	95
96	1996	0.	1981	0.	1950	11.	1919	76.	1915	43.	1991	-184.	1929	-473.	96
97	1997	0.	1983	0.	1913	9.	1931	43.	1987	38.	1977	-205.	1955	-475.	97
98	1998	0.	1985	0.	1941	9.	1934	41.	1984	-8.	1938	-207.	1899	-477.	98
99	1999	0.	1987	0.	1942	9.	1944	40.	1976	-9.	1968	-212.	1900	-479.	99
100	2000	0.	1988	0.	1924	7.	1932	32.	1999	-9.	1903	-236.	1910	-502.	100
101	2001	0.	1989	0.	1932	0.	1906	31.	2002	-18.	2000	-267.	1986	-521.	101
102	2002	0.	1991	0.	1995	0.	1989	21.	1954	-20.	1973	-292.	2001	-532.	102
103	1898	0.	1992	0.	1957	-2.	1990	-11.	2000	-22.	1946	-293.	1977	-549.	103
104	1899	0.	1993	0.	1937	-5.	2002	-29.	1931	-29.	1910	-295.	1985	-549.	104
105	1900	0.	1939	-4.	1960	-23.	1933	-41.	1998	-91.	1945	-340.	1948	-585.	105

Severity Index	November	December	January	February	March	April
Upper Bound	year	FDD	year	FDD	year	FDD
Above Normal	1930	58.	1920	299.	1920	473.
Normal	1926	20.	1952	207.	1957	326.
Below Normal	1947	0.	1954	34.	1949	119.
Mild	1989	0.	1932	0.	1906	31.

Table 6.10 Ranked Monthly FDD Accumulations at Alpena, MI.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
1	1926	18.	1960	144.	1990	598.	1912	754.	1904	720.	1960	455.	1926	-23.	1
2	1907	7.	1930	133.	1977	529.	1994	744.	1979	653.	1923	394.	1907	-25.	2
3	1914	4.	1934	122.	1918	466.	1918	736.	1934	648.	1926	385.	1950	-63.	3
4	1973	2.	1937	117.	2001	462.	1977	677.	1936	639.	1916	367.	1920	-90.	4
5	1924	2.	1904	115.	1964	430.	1963	677.	1917	632.	1899	356.	1972	-101.	5
6	1918	2.	1996	114.	1959	428.	1920	670.	1963	632.	1912	351.	1975	-112.	6
7	1997	2.	1990	112.	1920	425.	1982	644.	1914	583.	1906	329.	1936	-115.	7
8	1993	1.	1978	108.	1981	416.	1976	603.	1994	567.	1900	324.	1965	-117.	8
9	1989	1.	1979	85.	1984	412.	1961	590.	1962	560.	1972	315.	1904	-121.	9
10	1908	0.	1957	81.	1986	385.	1984	586.	1967	547.	1934	311.	1978	-121.	10
11	1909	0.	1997	81.	1904	385.	1970	571.	1905	540.	1965	299.	1928	-128.	11
12	1910	0.	1931	79.	1961	383.	1979	562.	1912	538.	1943	275.	1917	-131.	12
13	1911	0.	1968	79.	1925	380.	1904	560.	1918	513.	1950	270.	1923	-139.	13
14	1912	0.	1977	76.	1963	365.	1924	549.	1913	513.	1941	261.	1909	-139.	14
15	1913	0.	1952	72.	1996	346.	1945	542.	1968	511.	1984	256.	1914	-139.	15
16	1915	0.	1918	70.	1905	331.	1981	536.	1920	502.	1971	254.	1943	-142.	16
17	1916	0.	1898	70.	1917	329.	1966	531.	1978	500.	1989	245.	1944	-142.	17
18	1917	0.	1970	65.	1911	322.	1971	527.	1974	500.	1970	239.	1939	-146.	18
19	1919	0.	1948	65.	1927	320.	1929	504.	1899	500.	1940	239.	1996	-151.	19
20	1920	0.	1951	63.	1936	319.	1962	499.	1923	499.	1969	234.	1961	-160.	20
21	1921	0.	1912	61.	1915	317.	1905	497.	1929	488.	1939	234.	1982	-162.	21
22	1922	0.	1933	61.	1969	313.	1959	497.	1988	476.	1978	232.	1932	-167.	22
23	1923	0.	1959	59.	1934	310.	1996	495.	1901	473.	1932	227.	1947	-173.	23
24	1925	0.	1956	58.	1974	306.	1978	491.	1916	472.	1904	223.	1930	-180.	24
25	1927	0.	1965	56.	1978	299.	1965	488.	1959	470.	1914	220.	1918	-182.	25
26	1928	0.	1927	54.	1970	293.	1985	486.	1924	455.	1996	220.	1934	-184.	26
27	1929	0.	1986	48.	1907	292.	1957	473.	1972	454.	1975	218.	1956	-184.	27
28	1930	0.	1975	47.	1967	290.	1917	459.	1900	445.	1967	214.	1995	-185.	28
29	1931	0.	1972	47.	1935	284.	1997	457.	1980	443.	1956	212.	1940	-187.	29
30	1932	0.	1941	47.	1956	284.	1927	452.	1993	438.	1928	203.	1971	-189.	30
31	1933	0.	1950	47.	1946	281.	1943	445.	1908	437.	1982	203.	1924	-193.	31
32	1934	0.	1926	43.	1971	281.	1930	443.	1970	434.	1901	202.	1911	-203.	32
33	1935	0.	1905	41.	1943	281.	1925	441.	1907	432.	1944	202.	1919	-203.	33
34	1936	0.	1902	40.	1945	279.	1899	437.	1973	425.	1937	200.	1966	-203.	34
35	1937	0.	1899	40.	1938	277.	1940	427.	1995	419.	1963	198.	1992	-206.	35
36	1938	0.	1939	36.	1965	275.	1999	426.	1910	419.	2002	196.	1953	-209.	36
37	1939	0.	1920	36.	1973	272.	1968	425.	1958	418.	1913	187.	1937	-214.	37
38	1940	0.	1915	36.	1902	268.	1986	425.	1989	418.	1980	185.	1993	-218.	38
39	1941	0.	1987	35.	1930	266.	1938	421.	1996	416.	1959	178.	1997	-219.	39
40	1942	0.	1953	34.	1951	265.	1948	418.	1982	414.	1997	175.	1912	-220.	40
41	1943	0.	1925	34.	1962	265.	1972	418.	1985	403.	1948	175.	1962	-221.	41
42	1944	0.	1976	29.	1926	263.	1936	412.	1928	401.	1947	169.	1989	-221.	42
43	1945	0.	1973	29.	1910	259.	1991	410.	1948	400.	1930	169.	1933	-223.	43
44	1946	0.	1998	29.	1989	259.	1988	408.	1965	394.	1954	167.	1908	-229.	44
45	1947	0.	1906	29.	1899	257.	1935	400.	1946	387.	1905	164.	1983	-232.	45
46	1948	0.	1943	27.	1979	257.	1954	398.	1939	385.	1915	160.	1927	-239.	46
47	1949	0.	1981	27.	1976	256.	1923	396.	1971	380.	1964	157.	1899	-241.	47
48	1950	0.	1983	25.	1903	247.	1922	389.	1947	373.	1917	157.	1898	-243.	48
49	1951	0.	2001	23.	1944	243.	1980	382.	1960	369.	1993	155.	1916	-243.	49
50	1952	0.	1917	23.	1923	241.	2000	370.	1926	365.	1992	154.	1905	-245.	50
51	1953	0.	1980	22.	1909	239.	1915	369.	1942	362.	1962	153.	1967	-247.	51
52	1954	0.	1913	22.	1952	227.	1907	369.	1922	362.	1952	148.	1935	-247.	52
53	1955	0.	1938	20.	1898	223.	1951	365.	1906	358.	1908	148.	1903	-248.	53
54	1956	0.	1969	20.	1922	221.	1969	364.	1986	356.	1955	148.	1980	-252.	54
55	1957	0.	1971	20.	1947	221.	1901	358.	1977	355.	1911	144.	1960	-254.	55
56	1958	0.	1994	20.	1900	220.	1902	355.	1935	349.	1933	142.	1931	-261.	56
57	1959	0.	1982	18.	1916	218.	1960	351.	1933	344.	2001	138.	1922	-263.	57
58	1960	0.	1936	18.	1955	214.	1941	347.	1902	340.	1920	135.	1929	-263.	58
59	1961	0.	1903	18.	1992	210.	1974	347.	1969	322.	1974	131.	2000	-265.	59
60	1962	0.	1929	18.	1931	205.	1903	346.	1941	317.	1924	130.	1954	-266.	60
61	1963	0.	1966	16.	1908	203.	1908	335.	1903	308.	1988	126.	1951	-266.	61
62	1964	0.	1923	16.	1928	198.	1911	335.	1997	307.	1909	122.	1902	-266.	62
63	1965	0.	1995	16.	1968	198.	1967	331.	2001	306.	1931	119.	1979	-272.	63
64	1966	0.	1967	14.	1999	193.	1942	328.	1955	299.	1957	103.	1964	-275.	64
65	1967	0.	1946	14.	1901	189.	1910	326.	1945	299.	1961	101.	1959	-277.	65
66	1968	0.	1908	14.	1994	186.	1926	320.	1950	297.	1949	95.	1973	-277.	66

Table 6.10 cont. Ranked Monthly FDD Accumulations at Alpena, MI.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
67	1969	0.	1901	13.	1997	182.	1955	319.	1964	293.	1951	94.	1946	-279.	67
68	1970	0.	1964	11.	1948	178.	1993	318.	1898	288.	1994	91.	1913	-283.	68
69	1971	0.	1962	9.	1933	176.	1946	317.	1943	288.	1922	88.	1969	-286.	69
70	1972	0.	1919	9.	1982	176.	1928	315.	1940	286.	1999	87.	1974	-288.	70
71	1974	0.	1961	9.	2000	175.	1956	315.	1975	284.	1919	77.	1988	-293.	71
72	1975	0.	1944	7.	1991	166.	1964	313.	1930	279.	1925	68.	1963	-293.	72
73	1976	0.	1922	7.	1949	149.	1983	306.	1951	279.	1918	65.	1957	-293.	73
74	1977	0.	1947	7.	1972	139.	1909	304.	1925	274.	1986	60.	1970	-297.	74
75	1978	0.	1916	5.	1957	137.	1958	297.	1961	270.	1998	58.	1948	-297.	75
76	1979	0.	1954	5.	1941	137.	1975	295.	1990	270.	1936	58.	2002	-300.	76
77	1980	0.	1911	5.	1960	131.	1992	292.	1987	269.	1953	49.	1901	-313.	77
78	1981	0.	1958	5.	1950	130.	1914	290.	1956	266.	1935	47.	1925	-315.	78
79	1982	0.	1945	5.	1985	129.	1973	290.	1909	263.	1985	47.	1938	-317.	79
80	1983	0.	1984	4.	1921	124.	1898	288.	1919	259.	1976	45.	1958	-317.	80
81	1984	0.	2000	4.	1993	122.	1931	277.	1938	259.	1983	38.	1910	-320.	81
82	1985	0.	1921	2.	1975	122.	1947	275.	1966	257.	1942	29.	1900	-324.	82
83	1986	0.	1942	2.	1954	119.	1913	274.	1944	256.	1979	25.	1949	-326.	83
84	1987	0.	1992	2.	1939	119.	1987	274.	1915	248.	1990	22.	1984	-331.	84
85	1988	0.	1940	0.	1980	113.	1939	274.	1976	247.	1907	18.	1994	-337.	85
86	1990	0.	1949	0.	1942	110.	2001	253.	1927	247.	1991	17.	1977	-338.	86
87	1991	0.	1955	0.	1940	108.	1952	252.	1992	240.	1927	5.	1906	-342.	87
88	1992	0.	1963	0.	1906	108.	1937	245.	1952	221.	1966	2.	1999	-345.	88
89	1994	0.	1974	0.	1958	104.	1916	243.	2000	220.	1968	0.	1945	-347.	89
90	1995	0.	1985	0.	1937	90.	1995	241.	1911	220.	1981	-4.	1998	-350.	90
91	1996	0.	1988	0.	1914	90.	1950	238.	1957	220.	1995	-5.	2001	-369.	91
92	1998	0.	1910	0.	1929	88.	1998	232.	1937	218.	1958	-9.	1981	-371.	92
93	1999	0.	1991	0.	2002	88.	1900	230.	1921	216.	1987	-14.	1990	-376.	93
94	2000	0.	1900	0.	1966	88.	1921	220.	1981	212.	1898	-16.	1952	-376.	94
95	2001	0.	1999	0.	1987	87.	1919	218.	1932	203.	1938	-16.	1968	-383.	95
96	2002	0.	2002	0.	1988	81.	1934	207.	1949	203.	1929	-31.	1985	-384.	96
97	1898	0.	1909	0.	1919	79.	1953	203.	1999	201.	1921	-32.	1976	-387.	97
98	1899	0.	1928	0.	1983	77.	1989	188.	1983	194.	1902	-58.	1921	-387.	98
99	1900	0.	1932	0.	1913	74.	1949	173.	1953	194.	1973	-103.	1987	-388.	99
100	1901	0.	1935	0.	1998	74.	2002	169.	2002	191.	1903	-119.	1986	-389.	100
101	1902	0.	1989	-1.	1924	36.	1990	150.	1931	167.	1977	-122.	1941	-401.	101
102	1903	0.	1993	-1.	1932	36.	1906	135.	1991	156.	2000	-155.	1915	-405.	102
103	1904	0.	1924	-2.	1953	31.	1933	130.	1984	87.	1910	-171.	1991	-406.	103
104	1905	0.	1914	-4.	1912	31.	1944	112.	1954	86.	1945	-205.	1955	-421.	104
105	1906	0.	1907	-7.	1995	5.	1932	13.	1998	60.	1946	-214.	1942	-441.	105

Severity Index	November	December	January	February	March	April
Upper Bound	year	FDD	year	FDD	year	FDD
Above Normal	1996	114.	1959	428.	1920	670.
Normal	1933	61.	1969	313.	1959	497.
Below Normal	1940	0.	1980	113.	1939	274.
Mild	1989	-1.	1924	36.	1990	150.

Table 6.11 Ranked Monthly FDD Accumulations at Port Huron, MI.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
1	1926	11.	1904	95.	1990	492.	1912	659.	1904	542.	1900	268.	1998	0.	1
2	1918	2.	1930	85.	1918	389.	1918	655.	1936	495.	1912	254.	2000	0.	2
3	1907	2.	1957	52.	2001	377.	1977	596.	1934	482.	1916	234.	1953	-7.	3
4	1924	2.	1931	50.	1977	356.	1920	576.	1914	472.	1960	203.	1983	-32.	4
5	1902	0.	1959	50.	1915	340.	1994	527.	1912	457.	1906	191.	1921	-50.	5
6	1903	0.	1918	47.	1904	337.	1904	524.	1905	452.	1926	184.	1949	-76.	6
7	1904	0.	1899	45.	1984	333.	1945	508.	1917	452.	1937	182.	1973	-112.	7
8	1905	0.	1977	45.	1920	324.	1982	491.	1979	430.	1996	179.	2002	-124.	8
9	1906	0.	1951	45.	1911	320.	1963	445.	1916	389.	1940	171.	1907	-146.	9
10	1908	0.	1948	43.	1917	315.	1905	421.	1901	387.	1984	155.	1904	-162.	10
11	1909	0.	1939	40.	1959	315.	1970	409.	1978	387.	1941	130.	1926	-164.	11
12	1910	0.	1912	38.	1925	313.	1940	409.	1900	380.	1932	128.	1944	-180.	12
13	1911	0.	1937	38.	1986	310.	1979	407.	1907	376.	1899	113.	1919	-194.	13
14	1912	0.	1933	36.	1910	286.	1948	403.	1920	371.	1923	104.	1932	-202.	14
15	1913	0.	1950	32.	1964	270.	1943	403.	1923	367.	1944	94.	1946	-211.	15
16	1914	0.	1905	31.	1981	266.	1978	401.	1899	365.	1915	94.	1920	-212.	16
17	1915	0.	1941	29.	1905	252.	1984	393.	1963	349.	1965	85.	1937	-227.	17
18	1916	0.	1978	29.	1961	250.	1929	387.	1908	349.	1978	79.	1975	-230.	18
19	1917	0.	1925	27.	1945	248.	1925	380.	1910	335.	1972	70.	1954	-234.	19
20	1919	0.	1956	25.	1943	247.	1981	378.	1913	322.	1934	68.	1972	-236.	20
21	1920	0.	1975	25.	1996	238.	1976	376.	1929	311.	1950	58.	1943	-243.	21
22	1921	0.	1990	24.	1952	236.	1966	371.	1988	311.	1980	49.	1950	-252.	22
23	1922	0.	1898	22.	1963	236.	1971	367.	1994	307.	1975	43.	1987	-259.	23
24	1923	0.	1926	20.	1936	230.	1957	365.	1982	302.	1970	43.	1917	-261.	24
25	1925	0.	1943	20.	1927	227.	1924	365.	1902	302.	1909	41.	1965	-265.	25
26	1927	0.	1968	20.	1902	221.	1930	365.	1918	301.	1947	38.	1936	-270.	26
27	1928	0.	1944	20.	1946	216.	1985	359.	1924	295.	1904	36.	1995	-275.	27
28	1929	0.	1934	18.	1938	207.	1991	347.	1989	294.	1993	36.	1918	-277.	28
29	1930	0.	1953	18.	1951	205.	1915	346.	1967	293.	1924	34.	1909	-283.	29
30	1931	0.	1938	18.	1926	196.	1936	342.	1993	292.	1928	34.	1982	-283.	30
31	1932	0.	1980	18.	1903	191.	1999	341.	1942	288.	1914	29.	1940	-284.	31
32	1933	0.	1996	17.	1934	184.	1959	340.	1947	284.	1971	27.	1971	-286.	32
33	1934	0.	1902	16.	1930	182.	1917	335.	1972	281.	1933	27.	1961	-297.	33
34	1935	0.	1979	16.	1935	180.	1968	329.	1958	281.	1901	25.	1898	-297.	34
35	1936	0.	1906	16.	1916	175.	1962	322.	1995	279.	1911	25.	1989	-298.	35
36	1937	0.	1960	14.	1944	173.	1961	308.	1968	275.	1939	23.	1996	-299.	36
37	1938	0.	1972	11.	1899	169.	1922	308.	1974	274.	1956	23.	1914	-299.	37
38	1939	0.	1923	11.	1900	167.	1927	304.	1980	270.	1931	16.	1905	-299.	38
39	1940	0.	1966	9.	1923	166.	1938	297.	1906	266.	1982	13.	1923	-306.	39
40	1941	0.	1946	9.	1971	164.	1902	293.	1946	259.	1913	7.	1939	-310.	40
41	1942	0.	1965	7.	1989	163.	1903	288.	1962	256.	1992	5.	1928	-313.	41
42	1943	0.	1903	7.	1994	163.	1997	281.	1926	254.	1989	4.	1911	-313.	42
43	1944	0.	1952	7.	1907	162.	1899	279.	1986	244.	1943	2.	1979	-315.	43
44	1945	0.	1936	7.	1970	162.	1972	275.	1948	236.	1998	0.	1955	-322.	44
45	1946	0.	1997	6.	1974	158.	1935	266.	1996	235.	1930	0.	1992	-327.	45
46	1947	0.	1984	6.	1898	158.	1986	263.	1935	225.	2001	-24.	1976	-328.	46
47	1948	0.	1970	5.	1982	149.	1910	263.	1985	223.	1969	-25.	1978	-333.	47
48	1949	0.	1994	5.	1978	148.	1907	259.	1903	220.	1988	-29.	1901	-335.	48
49	1950	0.	1916	5.	1969	142.	1969	256.	1973	218.	1967	-29.	1966	-335.	49
50	1951	0.	1911	5.	1909	140.	1926	256.	1941	216.	2002	-36.	1908	-337.	50
51	1952	0.	1961	5.	1956	140.	1965	254.	1977	216.	1954	-38.	1930	-338.	51
52	1953	0.	1908	5.	1962	137.	1988	254.	1959	209.	1994	-41.	1916	-338.	52
53	1954	0.	1919	4.	1933	137.	1996	250.	1928	202.	1974	-43.	1997	-342.	53
54	1955	0.	2000	4.	1948	137.	1908	248.	1970	198.	1959	-49.	1924	-344.	54
55	1956	0.	1945	4.	1931	135.	1923	245.	1933	198.	1917	-49.	1956	-351.	55
56	1957	0.	1920	4.	1901	133.	1942	238.	1945	196.	1952	-49.	1927	-351.	56
57	1958	0.	1927	4.	1922	122.	1980	221.	1940	193.	1962	-50.	1912	-355.	57
58	1959	0.	1964	4.	1991	120.	1928	221.	1965	187.	1905	-50.	1938	-362.	58
59	1960	0.	1913	4.	1976	119.	1954	220.	1939	185.	1908	-59.	1903	-362.	59
60	1961	0.	1973	2.	1967	110.	1941	214.	1937	184.	1948	-61.	1988	-363.	60
61	1962	0.	1962	2.	1939	108.	1901	212.	1898	175.	1919	-61.	1933	-365.	61
62	1963	0.	1995	1.	1999	102.	2001	209.	1950	169.	1958	-63.	1993	-367.	62
63	1964	0.	1991	1.	1979	101.	1987	207.	1960	167.	1925	-70.	1984	-374.	63
64	1965	0.	1971	0.	1955	94.	1931	198.	1943	160.	1999	-74.	1931	-374.	64
65	1966	0.	1974	0.	2000	94.	1911	196.	1971	157.	1922	-81.	1913	-378.	65
66	1967	0.	1976	0.	1992	92.	1955	193.	1922	155.	1957	-85.	1935	-378.	66

Table 6.11 cont. Ranked Monthly FDD Accumulations at Port Huron, MI.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
67	1968	0.	1981	0.	1921	88.	1992	191.	1990	154.	1997	-86.	1980	-378.	67
68	1969	0.	1982	0.	1928	86.	1939	189.	1969	151.	1918	-88.	1957	-382.	68
69	1970	0.	1983	0.	1937	85.	2000	188.	1951	151.	1955	-95.	1947	-382.	69
70	1971	0.	1985	0.	1913	85.	1937	176.	1966	149.	1920	-97.	1964	-383.	70
71	1972	0.	1986	0.	1954	83.	1974	175.	1944	146.	1964	-103.	1900	-383.	71
72	1973	0.	1987	0.	1908	81.	1956	171.	1956	140.	1991	-104.	1902	-385.	72
73	1974	0.	1988	0.	1965	81.	1900	169.	1975	135.	1949	-104.	1922	-387.	73
74	1975	0.	1989	0.	1997	77.	1958	167.	1911	135.	1986	-114.	1958	-391.	74
75	1976	0.	1992	0.	1973	76.	1951	158.	1955	133.	1907	-121.	1999	-392.	75
76	1977	0.	1993	0.	1987	73.	1914	157.	1919	122.	1990	-123.	1906	-407.	76
77	1978	0.	1998	0.	1949	72.	1909	153.	1952	121.	1981	-130.	1942	-414.	77
78	1979	0.	1999	0.	2002	72.	1898	149.	1915	119.	1902	-135.	1951	-421.	78
79	1980	0.	2001	0.	1968	72.	1960	142.	1909	117.	1987	-135.	1970	-423.	79
80	1981	0.	2002	0.	1914	59.	1995	140.	1987	115.	1951	-135.	1934	-432.	80
81	1982	0.	1900	0.	1941	58.	1946	140.	1925	110.	1985	-138.	1910	-436.	81
82	1983	0.	1909	0.	1906	50.	1983	139.	1964	110.	1953	-139.	1952	-436.	82
83	1984	0.	1910	0.	1975	47.	1947	133.	2001	109.	1942	-140.	2001	-440.	83
84	1985	0.	1914	0.	1929	47.	1993	131.	1981	106.	1963	-148.	1929	-443.	84
85	1986	0.	1915	0.	1919	43.	1975	124.	1992	106.	1995	-149.	1967	-445.	85
86	1987	0.	1917	0.	1993	37.	1952	121.	1991	103.	1968	-153.	1974	-446.	86
87	1988	0.	1921	0.	1998	34.	1913	121.	1921	94.	1927	-158.	1990	-447.	87
88	1989	0.	1922	0.	1988	32.	1944	113.	1938	72.	1979	-158.	1986	-455.	88
89	1990	0.	1901	0.	1947	29.	1934	110.	1931	70.	1983	-169.	1945	-455.	89
90	1991	0.	1928	0.	1983	23.	1916	104.	1997	70.	1961	-169.	1985	-457.	90
91	1992	0.	1929	0.	1942	23.	1964	103.	1927	65.	1976	-180.	1962	-463.	91
92	1993	0.	1932	0.	1960	18.	1921	99.	1957	65.	1936	-185.	1969	-464.	92
93	1994	0.	1935	0.	1985	14.	1973	97.	1949	65.	1966	-187.	1959	-466.	93
94	1995	0.	1940	0.	1940	14.	1953	88.	1930	65.	1929	-194.	1991	-468.	94
95	1996	0.	1942	0.	1972	13.	1919	85.	1961	63.	1898	-200.	1899	-473.	95
96	1997	0.	1947	0.	1932	11.	1967	81.	2002	58.	1935	-225.	1925	-475.	96
97	1998	0.	1949	0.	1953	11.	1989	66.	1932	43.	1921	-230.	1941	-477.	97
98	1999	0.	1954	0.	1924	5.	1998	57.	1983	40.	1938	-232.	1981	-479.	98
99	2000	0.	1955	0.	1995	4.	1949	38.	1953	29.	1903	-238.	1994	-479.	99
100	2001	0.	1958	0.	1958	2.	1950	38.	1999	23.	1977	-257.	1960	-479.	100
101	2002	0.	1963	0.	1912	-4.	2002	30.	1976	14.	1973	-281.	1963	-493.	101
102	1898	0.	1967	0.	1966	-7.	1990	27.	2000	9.	2000	-295.	1915	-511.	102
103	1899	0.	1969	0.	1980	-9.	1932	20.	1954	-31.	1910	-301.	1968	-527.	103
104	1900	0.	1924	-2.	1957	-16.	1906	11.	1984	-40.	1945	-394.	1977	-529.	104
105	1901	0.	1907	-2.	1950	-29.	1933	-34.	1998	-91.	1946	-412.	1948	-574.	105

Severity Index	November	December	January	February	March	April
Upper Bound	year	FDD	year	FDD	year	FDD
Above Normal	1918	47.	1904	337.	1904	524.
Normal	1990	24.	1952	236.	1966	371.
Below Normal	1915	0.	1919	43.	1975	124.
Mild	1963	0.	1912	-4.	2002	30.

Table 6.12 Ranked Monthly FDD Accumulations at Detroit, MI.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
1	1964	32.	1904	88.	1990	428.	1912	587.	1934	482.	1960	178.	1973	0.	1
2	1918	4.	1930	70.	2001	389.	1918	587.	1936	464.	1900	176.	1998	0.	2
3	1926	2.	1951	70.	1984	347.	1977	518.	1904	459.	1912	175.	1953	0.	3
4	1901	0.	1937	68.	1918	317.	1920	475.	1901	436.	1984	117.	2000	0.	4
5	1902	0.	1957	59.	1910	315.	1904	455.	1979	425.	1906	117.	1921	0.	5
6	1903	0.	1899	52.	1986	313.	1963	455.	1914	403.	1940	104.	2002	0.	6
7	1904	0.	1959	52.	1915	310.	1994	449.	1905	396.	1899	97.	1919	-2.	7
8	1905	0.	1931	49.	1904	295.	1945	439.	1912	396.	1916	94.	1983	-9.	8
9	1906	0.	1948	40.	1959	295.	1984	436.	1963	369.	1926	94.	1949	-13.	9
10	1907	0.	1956	32.	1920	275.	1970	427.	1978	367.	1932	88.	1976	-14.	10
11	1908	0.	1977	32.	1911	272.	1940	405.	1917	351.	1934	85.	1987	-38.	11
12	1909	0.	1939	31.	1925	272.	1948	387.	1899	342.	1950	65.	1991	-53.	12
13	1910	0.	1953	25.	1963	270.	1979	374.	1900	317.	1965	59.	1995	-67.	13
14	1911	0.	1918	23.	1917	259.	1982	374.	1907	302.	1941	47.	1992	-70.	14
15	1912	0.	1925	22.	1964	254.	1905	362.	1916	301.	1947	34.	1975	-85.	15
16	1913	0.	1978	22.	1946	252.	1985	362.	1908	295.	1996	32.	1932	-88.	16
17	1914	0.	1905	20.	1961	250.	1981	353.	1913	295.	1937	32.	1946	-88.	17
18	1915	0.	1950	20.	1977	241.	1966	353.	1923	292.	1944	27.	1933	-137.	18
19	1916	0.	1941	20.	1952	236.	1957	338.	1920	270.	1978	25.	1931	-146.	19
20	1917	0.	1912	18.	1945	227.	1978	331.	1910	266.	1923	13.	1938	-151.	20
21	1919	0.	1997	18.	1936	221.	1959	331.	1902	265.	1915	5.	1990	-167.	21
22	1920	0.	1965	16.	1996	217.	1971	324.	1947	265.	1970	4.	1954	-169.	22
23	1921	0.	1898	16.	1902	216.	1943	320.	1942	263.	1998	0.	1927	-191.	23
24	1922	0.	1936	14.	1981	214.	1936	320.	1958	259.	1980	-2.	1989	-200.	24
25	1923	0.	1943	14.	1951	205.	1924	319.	1967	248.	1956	-11.	1997	-204.	25
26	1924	0.	1938	14.	1935	203.	1929	319.	1929	248.	2002	-19.	1898	-209.	26
27	1925	0.	1960	14.	1943	200.	1962	302.	1988	244.	1971	-25.	1907	-214.	27
28	1927	0.	1906	14.	1905	194.	1925	295.	1985	241.	1972	-25.	1993	-221.	28
29	1928	0.	1902	13.	1944	187.	1976	292.	1962	238.	1909	-29.	1909	-230.	29
30	1929	0.	1926	11.	1927	187.	1930	283.	1994	232.	1914	-29.	1955	-239.	30
31	1930	0.	1966	11.	1926	182.	1961	277.	1982	232.	1904	-34.	1999	-247.	31
32	1931	0.	1979	11.	1903	175.	1997	274.	1948	220.	1901	-38.	1974	-252.	32
33	1932	0.	1944	9.	1938	175.	1999	270.	1989	214.	1911	-43.	1950	-257.	33
34	1933	0.	1968	9.	1898	169.	1915	266.	1993	214.	1954	-47.	1957	-257.	34
35	1934	0.	1916	7.	1900	160.	1968	259.	1935	212.	1983	-50.	1966	-257.	35
36	1935	0.	1980	7.	1899	158.	1899	257.	1980	209.	1924	-54.	1942	-265.	36
37	1936	0.	1933	7.	1956	157.	1922	256.	1918	209.	1928	-54.	1926	-266.	37
38	1937	0.	1975	5.	1930	151.	1986	254.	1986	207.	1943	-54.	1964	-266.	38
39	1938	0.	1958	5.	1962	148.	1917	252.	1970	202.	1913	-54.	1937	-268.	39
40	1939	0.	1961	5.	1933	146.	1988	250.	1968	198.	1975	-58.	1920	-270.	40
41	1940	0.	1920	5.	1994	142.	1927	247.	1972	193.	1931	-63.	1904	-279.	41
42	1941	0.	1911	5.	1969	139.	1903	245.	1974	193.	1953	-63.	1929	-288.	42
43	1942	0.	1984	5.	1970	137.	1938	238.	1995	191.	1933	-65.	1958	-290.	43
44	1943	0.	1990	4.	1916	126.	1996	230.	1924	191.	1952	-67.	1922	-293.	44
45	1944	0.	1996	4.	1989	125.	1902	229.	1941	187.	1959	-70.	1968	-295.	45
46	1945	0.	1901	2.	1971	124.	2000	223.	1973	185.	1939	-72.	1945	-295.	46
47	1946	0.	1970	2.	1934	122.	1935	221.	1906	182.	1930	-74.	1906	-301.	47
48	1947	0.	1945	2.	1923	122.	1910	216.	1903	180.	1948	-83.	1936	-308.	48
49	1948	0.	1972	2.	1901	117.	1926	214.	1926	175.	1967	-90.	1943	-310.	49
50	1949	0.	1903	2.	1974	113.	1969	214.	1959	169.	1969	-90.	1928	-311.	50
51	1950	0.	1994	1.	1967	106.	1901	212.	1996	165.	1993	-92.	1903	-319.	51
52	1951	0.	2001	0.	1976	101.	1991	210.	1898	158.	1962	-94.	1940	-324.	52
53	1952	0.	2002	0.	1999	99.	1972	203.	1950	155.	1999	-96.	1944	-328.	53
54	1953	0.	1907	0.	1939	97.	1965	200.	1946	153.	2001	-103.	1939	-329.	54
55	1954	0.	1908	0.	1978	95.	1908	196.	1965	153.	1989	-107.	1952	-331.	55
56	1955	0.	1909	0.	2000	94.	1942	191.	1940	151.	1955	-113.	1967	-333.	56
57	1956	0.	1910	0.	1907	92.	1907	189.	1939	144.	1917	-115.	1961	-344.	57
58	1957	0.	1913	0.	1921	92.	1954	185.	1928	140.	1949	-115.	1917	-349.	58
59	1958	0.	1914	0.	1947	92.	1987	183.	1960	131.	1992	-117.	1913	-355.	59
60	1959	0.	1915	0.	1948	92.	1955	178.	1933	130.	1964	-122.	1969	-360.	60
61	1960	0.	1917	0.	1991	89.	1941	178.	1951	126.	1919	-128.	1980	-360.	61
62	1961	0.	1919	0.	1922	88.	2001	177.	1977	122.	1908	-130.	1979	-362.	62
63	1962	0.	1921	0.	1940	85.	1928	175.	1945	117.	1982	-133.	1934	-364.	63
64	1963	0.	1922	0.	2002	81.	1956	175.	1944	113.	1958	-135.	1988	-370.	64
65	1965	0.	1923	0.	1968	81.	1958	167.	1943	113.	1951	-139.	1935	-373.	65
66	1966	0.	1924	0.	1982	79.	1923	157.	1956	113.	1974	-140.	1905	-373.	66

Table 6.12 cont. Ranked Monthly FDD Accumulations at Detroit, MI.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
67	1967	0.	1927	0.	1949	77.	1980	153.	1971	108.	1957	-151.	1918	-378.	67
68	1968	0.	1928	0.	1931	74.	1911	146.	1937	106.	1922	-151.	1972	-378.	68
69	1969	0.	1929	0.	1954	72.	1951	137.	1955	103.	1981	-158.	1947	-380.	69
70	1970	0.	1932	0.	1909	70.	1939	130.	1966	101.	1988	-159.	1965	-382.	70
71	1971	0.	1934	0.	1955	70.	1946	121.	1969	99.	1994	-165.	1914	-387.	71
72	1972	0.	1935	0.	1913	58.	1898	119.	1922	99.	1997	-168.	1930	-387.	72
73	1973	0.	1940	0.	1965	54.	1900	115.	1911	94.	1905	-169.	1923	-396.	73
74	1974	0.	1942	0.	1908	49.	1931	113.	1964	92.	1936	-171.	1951	-398.	74
75	1975	0.	1946	0.	1928	49.	1992	112.	1909	83.	1925	-173.	1908	-401.	75
76	1976	0.	1947	0.	1992	47.	1995	106.	1952	81.	1986	-173.	1982	-401.	76
77	1977	0.	1949	0.	1997	45.	1909	104.	1919	76.	1979	-173.	1996	-403.	77
78	1978	0.	1952	0.	1973	36.	1960	99.	1987	67.	1963	-175.	1971	-409.	78
79	1979	0.	1954	0.	1914	36.	1993	91.	1981	63.	1920	-178.	1985	-409.	79
80	1980	0.	1955	0.	1988	35.	1974	86.	1975	63.	1921	-189.	1956	-410.	80
81	1981	0.	1962	0.	1979	31.	1947	86.	1915	63.	1985	-196.	1978	-410.	81
82	1982	0.	1963	0.	1998	31.	1952	85.	2001	49.	1966	-196.	1924	-419.	82
83	1983	0.	1900	0.	1987	28.	1914	83.	1921	47.	1942	-202.	1911	-419.	83
84	1984	0.	1967	0.	1919	27.	1975	77.	1957	41.	1935	-220.	1960	-423.	84
85	1985	0.	1969	0.	1929	23.	1983	76.	1949	36.	1961	-221.	1912	-425.	85
86	1986	0.	1971	0.	1942	16.	1937	70.	1997	35.	1907	-221.	1910	-427.	86
87	1987	0.	1973	0.	1983	14.	1973	68.	1925	34.	1902	-225.	1941	-430.	87
88	1988	0.	1974	0.	1912	11.	1967	65.	1961	34.	1995	-230.	1916	-445.	88
89	1989	0.	1976	0.	1993	8.	1934	63.	1990	31.	1918	-236.	1925	-452.	89
90	1990	0.	1981	0.	1972	5.	1916	59.	1992	28.	1990	-239.	1984	-457.	90
91	1991	0.	1982	0.	1985	3.	1913	54.	1938	22.	1987	-240.	1902	-459.	91
92	1992	0.	1983	0.	1906	2.	1921	49.	1991	15.	1927	-252.	1981	-470.	92
93	1993	0.	1985	0.	1924	2.	1953	47.	1927	7.	1968	-254.	1901	-477.	93
94	1994	0.	1986	0.	1932	2.	1964	45.	2000	1.	1898	-256.	1900	-488.	94
95	1995	0.	1987	0.	1960	0.	1950	38.	1953	-4.	1991	-261.	1959	-499.	95
96	1996	0.	1988	0.	1995	0.	1944	36.	1931	-23.	1903	-281.	1970	-508.	96
97	1997	0.	1989	0.	1941	-2.	1919	31.	1999	-26.	1973	-290.	2001	-512.	97
98	1998	0.	1991	0.	1953	-4.	1998	30.	1932	-27.	1976	-290.	1963	-520.	98
99	1999	0.	1992	0.	1958	-4.	1932	25.	2002	-31.	1938	-299.	1962	-527.	99
100	2000	0.	1993	0.	1937	-5.	1949	14.	1983	-32.	1929	-301.	1977	-542.	100
101	2001	0.	1995	0.	1975	-5.	1906	-13.	1954	-41.	2000	-318.	1899	-554.	101
102	2002	0.	1998	0.	1980	-7.	2002	-31.	1930	-43.	1977	-374.	1986	-558.	102
103	1898	0.	1999	0.	1966	-11.	1989	-32.	1984	-49.	1910	-374.	1948	-576.	103
104	1899	0.	2000	0.	1950	-20.	1990	-57.	1998	-61.	1946	-436.	1994	-581.	104
105	1900	0.	1964	-31.	1957	-32.	1933	-81.	1976	-88.	1945	-491.	1915	-601.	105

Severity Index	November	December	January	February	March	April
Upper Bound	year	FDD	year	FDD	year	FDD
Above Normal	1899	52.	1986	313.	1963	455.
Normal	1965	16.	1996	217.	1971	324.
Below Normal	1969	0.	1929	23.	1983	76.
Mild	1995	0.	1975	-5.	1906	-13.

Table 6.13 Ranked Monthly FDD Accumulations at Toledo, OH.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
1	1926	4.	1951	86.	1990	465.	1977	695.	1978	565.	1960	160.	1909	0.	1
2	1899	0.	1904	72.	2001	422.	1918	565.	1979	473.	1984	156.	1938	0.	2
3	1900	0.	1957	65.	1964	383.	1963	533.	1934	418.	1912	128.	1949	0.	3
4	1901	0.	1899	61.	1984	374.	1912	522.	1936	416.	1900	117.	1898	0.	4
5	1902	0.	1959	58.	1977	374.	1982	504.	1904	414.	1978	104.	1927	0.	5
6	1903	0.	1972	58.	1963	338.	1970	491.	1901	394.	1906	90.	1973	0.	6
7	1904	0.	1930	58.	1959	338.	1945	479.	1963	391.	1965	70.	1998	0.	7
8	1905	0.	1948	56.	1961	333.	1984	478.	1905	376.	1940	58.	1921	0.	8
9	1906	0.	1931	50.	1986	312.	1978	472.	1914	367.	1932	56.	2000	0.	9
10	1907	0.	1978	50.	1918	311.	1994	456.	1912	344.	1916	52.	1953	0.	10
11	1908	0.	1937	49.	1915	306.	1940	448.	1982	333.	1926	41.	2002	0.	11
12	1909	0.	1956	47.	1904	299.	1981	448.	1980	308.	1947	25.	1933	-2.	12
13	1910	0.	1977	45.	1910	293.	1979	448.	1899	297.	1934	23.	1919	-2.	13
14	1911	0.	1939	40.	1946	290.	1920	436.	1917	290.	1950	18.	1992	-7.	14
15	1912	0.	1960	31.	1945	277.	1904	423.	1902	283.	1941	18.	1931	-9.	15
16	1913	0.	1953	29.	1951	275.	1948	410.	1947	281.	1944	11.	1995	-11.	16
17	1914	0.	1968	29.	1952	257.	1985	396.	1958	274.	1899	7.	1983	-29.	17
18	1915	0.	1965	25.	1920	254.	1966	383.	1985	265.	1970	7.	1991	-34.	18
19	1916	0.	1966	23.	1981	248.	1976	380.	1900	256.	1996	4.	1987	-45.	19
20	1917	0.	1975	20.	1917	247.	1957	369.	1967	254.	1998	0.	1932	-56.	20
21	1918	0.	1925	20.	1925	234.	1971	364.	1974	248.	1937	-2.	1946	-61.	21
22	1919	0.	1979	20.	1902	232.	1959	344.	1994	246.	1980	-13.	1954	-77.	22
23	1920	0.	1941	20.	1996	230.	1905	340.	1988	245.	2002	-17.	1990	-89.	23
24	1921	0.	1933	20.	1978	227.	1936	326.	1907	239.	1919	-27.	1908	-112.	24
25	1922	0.	1918	18.	1936	221.	1969	324.	1923	239.	1971	-27.	1907	-128.	25
26	1923	0.	1997	17.	1911	216.	1962	317.	1942	238.	1969	-34.	1913	-146.	26
27	1924	0.	1898	16.	1962	212.	1997	317.	1916	236.	1975	-40.	1939	-148.	27
28	1925	0.	1938	16.	1944	203.	1968	310.	1913	225.	1915	-40.	1989	-150.	28
29	1927	0.	1980	14.	1974	202.	1961	299.	1908	220.	1982	-41.	1928	-151.	29
30	1928	0.	1970	14.	1943	200.	1924	292.	1972	220.	1949	-43.	1922	-153.	30
31	1929	0.	1944	13.	1970	198.	1929	277.	1929	218.	1953	-49.	1937	-157.	31
32	1930	0.	1936	13.	1969	187.	1972	266.	1968	218.	1956	-54.	1929	-164.	32
33	1931	0.	1950	13.	1905	175.	1925	261.	1977	218.	1923	-58.	1935	-166.	33
34	1932	0.	1906	13.	1956	173.	1930	256.	1970	216.	1924	-63.	1997	-173.	34
35	1933	0.	1943	11.	1982	167.	1943	254.	1920	203.	1943	-65.	1950	-173.	35
36	1934	0.	1994	10.	1926	166.	1956	252.	1910	203.	1972	-65.	1911	-176.	36
37	1935	0.	1982	9.	1903	164.	1996	249.	1962	202.	1954	-67.	1930	-178.	37
38	1936	0.	1961	7.	1927	158.	2000	249.	1989	201.	1993	-80.	1903	-182.	38
39	1937	0.	1905	7.	1935	155.	1988	246.	1993	199.	1999	-81.	1955	-196.	39
40	1938	0.	1945	7.	1994	152.	1980	241.	1986	197.	1931	-85.	1993	-197.	40
41	1939	0.	1954	7.	1900	151.	1922	236.	1973	191.	1914	-85.	1999	-202.	41
42	1940	0.	1926	7.	1976	151.	1915	236.	1948	185.	1909	-86.	1910	-203.	42
43	1941	0.	1912	7.	1989	149.	1999	232.	1964	176.	1967	-86.	1976	-209.	43
44	1942	0.	1920	5.	1971	148.	1965	227.	1965	175.	1964	-94.	1942	-212.	44
45	1943	0.	1990	5.	1899	139.	1903	216.	1906	175.	1962	-94.	1952	-223.	45
46	1944	0.	1967	5.	1898	135.	1991	205.	1941	167.	1933	-94.	1957	-261.	46
47	1945	0.	1958	5.	1967	135.	1986	200.	1995	167.	1921	-99.	1925	-263.	47
48	1946	0.	1984	5.	1965	135.	1955	198.	1924	162.	1959	-101.	1906	-266.	48
49	1947	0.	1916	4.	1938	131.	1902	196.	1959	146.	1930	-101.	1975	-266.	49
50	1948	0.	1964	4.	1933	119.	1987	192.	1996	142.	2001	-106.	1961	-284.	50
51	1949	0.	1962	4.	1948	117.	1958	191.	1966	142.	1928	-108.	1926	-304.	51
52	1950	0.	1911	2.	1923	110.	1917	191.	1903	139.	1939	-110.	1920	-313.	52
53	1951	0.	1973	2.	2000	105.	1899	191.	1935	135.	1913	-113.	1914	-315.	53
54	1952	0.	1902	2.	1999	104.	1974	184.	1950	131.	1952	-119.	1943	-317.	54
55	1953	0.	1946	2.	1975	97.	1927	175.	1945	128.	1958	-119.	1982	-319.	55
56	1954	0.	1996	1.	1930	95.	2001	174.	1969	128.	1911	-119.	1904	-333.	56
57	1955	0.	1913	0.	1901	92.	1942	173.	1960	128.	1901	-122.	1966	-335.	57
58	1956	0.	1914	0.	1991	90.	1938	169.	1918	122.	1948	-124.	1944	-340.	58
59	1957	0.	1915	0.	1921	90.	1926	167.	1951	122.	1974	-128.	1941	-344.	59
60	1958	0.	1917	0.	1947	86.	1910	164.	1940	121.	1904	-133.	1958	-347.	60
61	1959	0.	1919	0.	1934	85.	1901	164.	1971	117.	1992	-134.	1936	-351.	61
62	1960	0.	1921	0.	1916	83.	1935	162.	1926	112.	1981	-135.	1988	-353.	62
63	1961	0.	1922	0.	1907	81.	1954	157.	1944	108.	1951	-140.	1923	-358.	63
64	1962	0.	1923	0.	1940	81.	1941	157.	1975	104.	1955	-146.	1940	-362.	64
65	1963	0.	1924	0.	1968	79.	1983	137.	1943	99.	1957	-148.	1916	-371.	65
66	1964	0.	1927	0.	2002	78.	1951	133.	1981	99.	1963	-155.	1905	-378.	66

Table 6.13 cont. Ranked Monthly FDD Accumulations at Toledo, OH.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
67	1965	0.	1928	0.	1922	74.	1908	133.	1898	99.	1994	-155.	1924	-389.	67
68	1966	0.	1929	0.	1954	72.	1946	128.	1939	94.	1989	-156.	1967	-392.	68
69	1967	0.	1932	0.	1939	70.	1928	126.	1946	94.	1983	-171.	1917	-400.	69
70	1968	0.	1934	0.	1949	70.	1973	121.	1956	92.	1917	-175.	1918	-401.	70
71	1969	0.	1935	0.	1979	59.	1995	114.	1937	88.	1988	-178.	1945	-403.	71
72	1970	0.	1940	0.	1973	56.	1907	112.	1928	86.	1966	-189.	1979	-405.	72
73	1971	0.	1942	0.	1955	56.	1992	112.	1955	85.	1922	-198.	1956	-409.	73
74	1972	0.	1947	0.	1931	52.	1964	108.	1933	67.	1968	-203.	1947	-412.	74
75	1973	0.	1949	0.	1928	47.	1960	101.	1987	56.	1942	-207.	1960	-414.	75
76	1974	0.	1952	0.	1988	40.	1967	90.	1952	47.	1979	-207.	1978	-414.	76
77	1975	0.	1955	0.	1997	36.	1975	88.	1922	41.	1997	-210.	1971	-421.	77
78	1976	0.	1963	0.	1987	36.	1900	86.	1983	41.	1925	-212.	1951	-421.	78
79	1977	0.	1969	0.	1992	36.	1993	77.	1961	27.	1961	-218.	1934	-423.	79
80	1978	0.	1971	0.	1914	34.	1937	68.	1919	27.	1936	-223.	1972	-423.	80
81	1979	0.	1974	0.	1913	34.	1923	65.	2001	22.	1986	-224.	1984	-427.	81
82	1980	0.	1976	0.	1998	33.	1911	61.	1957	20.	1985	-226.	1968	-430.	82
83	1981	0.	1981	0.	1909	23.	1939	54.	1911	18.	1905	-232.	1996	-433.	83
84	1982	0.	1983	0.	1983	22.	1947	50.	1909	18.	1920	-232.	1985	-435.	84
85	1983	0.	1985	0.	1919	20.	1944	47.	2002	17.	1908	-239.	1965	-443.	85
86	1984	0.	1986	0.	1942	9.	1931	47.	1997	13.	1987	-239.	1980	-443.	86
87	1985	0.	1987	0.	1980	7.	1909	47.	1953	4.	1902	-243.	1901	-454.	87
88	1986	0.	1988	0.	1912	5.	1898	41.	1991	4.	1991	-265.	1963	-464.	88
89	1987	0.	1989	0.	1908	2.	1952	38.	1921	2.	1995	-270.	1902	-468.	89
90	1988	0.	1991	0.	1993	1.	1998	29.	1915	-7.	1927	-275.	1986	-486.	90
91	1989	0.	1992	0.	1924	0.	1950	25.	1992	-7.	1990	-288.	1962	-488.	91
92	1990	0.	1993	0.	1929	0.	1932	23.	1949	-11.	1898	-290.	1912	-493.	92
93	1991	0.	1995	0.	1932	0.	1953	22.	1990	-17.	1935	-292.	1915	-495.	93
94	1992	0.	1998	0.	1985	0.	1934	7.	1976	-23.	1938	-292.	1964	-497.	94
95	1993	0.	1999	0.	1995	0.	1921	7.	1932	-23.	1977	-295.	1959	-500.	95
96	1994	0.	2000	0.	1958	-5.	1914	2.	1938	-25.	1976	-297.	1974	-502.	96
97	1995	0.	2001	0.	1960	-7.	1906	-2.	1984	-41.	1918	-301.	1900	-504.	97
98	1996	0.	2002	0.	1953	-7.	1916	-2.	1925	-41.	1907	-306.	1970	-506.	98
99	1997	0.	1900	0.	1906	-7.	1913	-4.	2000	-46.	2000	-308.	2001	-512.	99
100	1998	0.	1901	0.	1950	-13.	1919	-18.	1999	-53.	1929	-333.	1969	-518.	100
101	1999	0.	1903	0.	1941	-20.	1949	-18.	1931	-56.	1903	-335.	1981	-536.	101
102	2000	0.	1907	0.	1966	-25.	1989	-44.	1927	-59.	1973	-371.	1994	-570.	102
103	2001	0.	1908	0.	1957	-45.	1990	-76.	1998	-62.	1946	-452.	1899	-581.	103
104	2002	0.	1909	0.	1972	-47.	2002	-78.	1954	-94.	1910	-455.	1948	-601.	104
105	1898	0.	1910	0.	1937	-50.	1933	-110.	1930	-126.	1945	-486.	1977	-637.	105

Severity Index	November	December	January	February	March	April
Upper Bound	year	FDD	year	FDD	year	FDD
Above Normal	1972	58.	1963	338.	1970	491.
Normal	1979	20.	1902	232.	1959	344.
Below Normal	1985	0.	1919	20.	1944	47.
Mild	1903	0.	1941	-20.	1949	-18.

Table 6.14 Ranked Monthly FDD Accumulations at Cleveland, OH.

Rank	October		November		December		January		February		March		April		Rank	
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD		
1	1926		2.	1951	68.	1990	393.	1977	653.	1978	428.	1960	248.	1938	0.	1
2	1899		0.	1904	65.	1964	313.	1918	522.	1963	407.	1984	129.	1939	0.	2
3	1900		0.	1930	50.	1984	302.	1912	499.	1934	407.	1900	103.	1930	0.	3
4	1901		0.	1959	49.	1918	301.	1963	436.	1904	385.	1906	99.	1953	0.	4
5	1902		0.	1957	45.	1961	295.	1970	410.	1979	365.	1912	94.	1983	0.	5
6	1903		0.	1948	43.	2001	286.	1945	409.	1905	353.	1916	59.	1931	0.	6
7	1904		0.	1977	41.	1910	277.	1920	405.	1901	349.	1915	50.	1898	0.	7
8	1905		0.	1899	41.	1986	273.	1994	391.	1914	335.	1932	50.	1933	0.	8
9	1906		0.	1931	36.	1977	272.	1940	385.	1936	320.	1941	45.	1927	0.	9
10	1907		0.	1937	32.	1959	270.	1904	383.	1912	315.	1926	38.	1935	0.	10
11	1908		0.	1956	32.	1904	256.	1982	378.	1902	310.	1940	32.	1989	0.	11
12	1909		0.	1953	25.	1963	254.	1948	371.	1917	297.	1996	29.	1990	0.	12
13	1910		0.	1978	22.	1946	239.	1981	369.	1899	297.	1971	13.	1991	0.	13
14	1911		0.	1966	14.	1915	234.	1978	369.	1980	297.	1965	9.	1946	0.	14
15	1912		0.	1925	14.	1951	214.	1985	364.	1968	274.	1947	7.	1973	0.	15
16	1913		0.	1980	13.	1996	212.	1984	351.	1916	265.	1937	2.	1974	0.	16
17	1914		0.	1939	13.	1917	207.	1966	349.	1947	263.	1998	0.	1995	0.	17
18	1915		0.	1968	11.	1911	200.	1971	328.	1907	256.	1953	-2.	1921	0.	18
19	1916		0.	1912	11.	1945	200.	1976	322.	1958	247.	1934	-5.	1976	0.	19
20	1917		0.	1938	11.	1920	194.	1961	320.	1900	245.	1949	-5.	1998	0.	20
21	1918		0.	1906	11.	1936	187.	1979	311.	1923	232.	1978	-13.	1909	0.	21
22	1919		0.	1898	11.	1952	185.	1905	297.	1910	229.	2002	-19.	2000	0.	22
23	1920		0.	1965	11.	1981	184.	1968	279.	1942	218.	1919	-20.	1949	0.	23
24	1921		0.	1960	11.	1944	180.	1957	279.	1920	218.	1983	-25.	2002	0.	24
25	1922		0.	1961	7.	1925	178.	1997	259.	1913	212.	1899	-31.	1997	-1.	25
26	1923		0.	1954	7.	1902	169.	1936	256.	1908	202.	1950	-31.	1954	-2.	26
27	1924		0.	1943	7.	1943	162.	1962	254.	1977	198.	1909	-38.	1992	-4.	27
28	1925		0.	1918	7.	1994	154.	1924	250.	1982	193.	1933	-41.	1919	-4.	28
29	1927		0.	1926	5.	1926	149.	1959	248.	1929	193.	1931	-43.	1987	-6.	29
30	1928		0.	1916	5.	1970	149.	1929	218.	1964	191.	1924	-47.	1943	-9.	30
31	1929		0.	1902	5.	1905	146.	1955	209.	1985	191.	1980	-50.	1975	-29.	31
32	1930		0.	1936	4.	1900	131.	1969	205.	1924	191.	1954	-50.	1952	-34.	32
33	1931		0.	1990	4.	1962	131.	1925	203.	1972	182.	1944	-52.	1955	-40.	33
34	1932		0.	1945	4.	1903	126.	1980	203.	1989	174.	1970	-54.	1922	-45.	34
35	1933		0.	1958	4.	1927	124.	1922	198.	1993	173.	1962	-56.	1932	-50.	35
36	1934		0.	1905	4.	1956	112.	1965	196.	1967	173.	1993	-57.	1903	-52.	36
37	1935		0.	1944	2.	1898	110.	1988	190.	1988	172.	1914	-61.	1929	-56.	37
38	1936		0.	1911	2.	1969	97.	1915	185.	1962	171.	2001	-68.	1937	-58.	38
39	1937		0.	1973	2.	1899	97.	1903	184.	1906	153.	1969	-70.	1999	-71.	39
40	1938		0.	1970	2.	1982	92.	1902	184.	1966	151.	1911	-72.	1913	-74.	40
41	1939		0.	1984	1.	1978	92.	1996	180.	1941	149.	1930	-74.	1950	-79.	41
42	1940		0.	1994	1.	2000	91.	1930	178.	1994	148.	1975	-79.	1957	-86.	42
43	1941		0.	1979	0.	1999	88.	1899	175.	1995	137.	1999	-81.	1967	-86.	43
44	1942		0.	1981	0.	1976	86.	1986	166.	1970	133.	1921	-81.	1908	-113.	44
45	1943		0.	1982	0.	1967	86.	1910	166.	1973	122.	1972	-85.	1925	-130.	45
46	1944		0.	1983	0.	2002	85.	1927	164.	1996	120.	1923	-86.	1928	-131.	46
47	1945		0.	1985	0.	1921	85.	2000	159.	1974	119.	1928	-103.	1993	-144.	47
48	1946		0.	1986	0.	1971	83.	1972	149.	1969	117.	1992	-106.	1942	-158.	48
49	1947		0.	1987	0.	1968	79.	1999	147.	1971	115.	1958	-108.	1907	-162.	49
50	1948		0.	1988	0.	1923	70.	1917	146.	1965	113.	1904	-110.	1945	-175.	50
51	1949		0.	1989	0.	1934	68.	1942	146.	1918	110.	1938	-110.	1956	-176.	51
52	1950		0.	1991	0.	1940	63.	1907	146.	1926	110.	1939	-110.	1911	-178.	52
53	1951		0.	1992	0.	1933	61.	1926	146.	1898	108.	1943	-119.	1944	-200.	53
54	1952		0.	1993	0.	1938	58.	1987	143.	1903	101.	1981	-124.	1988	-203.	54
55	1953		0.	1995	0.	1935	58.	1991	140.	1940	101.	1956	-124.	1951	-218.	55
56	1954		0.	1996	0.	1901	56.	1956	137.	1948	99.	1974	-131.	1972	-254.	56
57	1955		0.	1997	0.	1989	55.	2001	124.	1950	97.	1913	-140.	1906	-254.	57
58	1956		0.	1998	0.	1954	54.	1908	124.	1935	95.	1959	-140.	1958	-257.	58
59	1957		0.	1999	0.	1922	52.	1958	121.	1986	91.	1994	-143.	1904	-261.	59
60	1958		0.	2000	0.	1947	52.	1901	119.	1943	85.	1952	-144.	1923	-274.	60
61	1959		0.	2001	0.	1991	48.	1928	112.	1959	83.	1901	-146.	1926	-279.	61
62	1960		0.	2002	0.	1907	45.	1954	110.	1928	83.	1982	-157.	1910	-284.	62
63	1961		0.	1901	0.	1928	41.	1992	108.	1945	76.	1964	-157.	1914	-288.	63
64	1962		0.	1903	0.	1939	40.	1935	106.	1944	74.	1967	-158.	1941	-293.	64
65	1963		0.	1907	0.	1949	40.	1941	97.	1960	72.	1991	-161.	1947	-295.	65
66	1964		0.	1908	0.	1916	38.	1938	94.	1951	59.	1917	-166.	1985	-298.	66

Table 6.14 cont. Ranked Monthly FDD Accumulations at Cleveland, OH.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
67	1965	0.	1909	0.	1914	29.	1946	77.	1937	47.	1968	-171.	1986	-298.	67
68	1966	0.	1910	0.	1998	24.	1995	77.	1975	43.	1989	-174.	1920	-315.	68
69	1967	0.	1913	0.	1992	24.	1964	68.	1987	43.	1988	-175.	1966	-319.	69
70	1968	0.	1914	0.	1948	23.	1900	67.	1946	40.	1973	-176.	1948	-322.	70
71	1969	0.	1915	0.	1987	21.	1983	65.	1955	32.	2000	-177.	1916	-324.	71
72	1970	0.	1917	0.	1931	20.	1951	63.	1933	31.	1966	-178.	1965	-326.	72
73	1971	0.	1919	0.	1919	18.	1939	59.	1956	20.	1905	-187.	2001	-327.	73
74	1972	0.	1920	0.	1988	16.	1923	58.	2002	19.	1957	-189.	1971	-335.	74
75	1973	0.	1921	0.	1942	14.	1973	54.	1919	18.	1997	-189.	1940	-337.	75
76	1974	0.	1922	0.	1983	14.	1975	50.	1981	16.	1951	-189.	1961	-342.	76
77	1975	0.	1923	0.	1975	14.	1960	47.	1961	13.	1987	-201.	1969	-346.	77
78	1976	0.	1924	0.	1979	14.	1911	45.	1911	5.	1955	-203.	1979	-355.	78
79	1977	0.	1927	0.	1913	13.	1909	40.	1922	5.	1990	-207.	1905	-358.	79
80	1978	0.	1928	0.	1974	11.	1993	28.	1952	-2.	1922	-211.	1936	-369.	80
81	1979	0.	1929	0.	1909	9.	1932	22.	1939	-2.	1908	-212.	1901	-374.	81
82	1980	0.	1932	0.	1997	6.	1931	16.	1921	-4.	1948	-212.	1982	-376.	82
83	1981	0.	1933	0.	1972	5.	1898	13.	1909	-11.	1995	-214.	1960	-378.	83
84	1982	0.	1900	0.	1929	5.	1950	11.	1953	-13.	1925	-218.	1924	-394.	84
85	1983	0.	1935	0.	1912	0.	1949	11.	2001	-15.	1963	-220.	1917	-401.	85
86	1984	0.	1940	0.	1941	0.	1937	7.	1992	-22.	1942	-221.	1964	-412.	86
87	1985	0.	1941	0.	1973	0.	1953	2.	1932	-22.	1936	-232.	1918	-416.	87
88	1986	0.	1942	0.	1980	0.	1974	2.	1915	-23.	1986	-232.	1902	-421.	88
89	1987	0.	1946	0.	1985	0.	1998	1.	1998	-25.	1898	-238.	1980	-423.	89
90	1988	0.	1947	0.	1993	0.	1921	0.	1991	-27.	1902	-239.	1984	-423.	90
91	1989	0.	1949	0.	1995	0.	1906	-4.	1931	-27.	1927	-243.	1996	-437.	91
92	1990	0.	1950	0.	1950	0.	1952	-4.	1957	-27.	1961	-247.	1915	-443.	92
93	1991	0.	1952	0.	1924	0.	1944	-4.	1949	-43.	1920	-250.	1981	-445.	93
94	1992	0.	1955	0.	1955	0.	1934	-5.	1927	-47.	1918	-252.	1978	-450.	94
95	1993	0.	1962	0.	1908	0.	1913	-13.	1938	-52.	1985	-257.	1934	-459.	95
96	1994	0.	1963	0.	1932	0.	1919	-13.	1925	-54.	1935	-259.	1900	-459.	96
97	1995	0.	1964	0.	1960	0.	1967	-13.	1983	-54.	1907	-283.	1962	-463.	97
98	1996	0.	1967	0.	1958	-2.	1914	-13.	1990	-65.	1976	-295.	1968	-473.	98
99	1997	0.	1969	0.	1930	-2.	1947	-23.	1997	-75.	1977	-331.	1912	-481.	99
100	1998	0.	1971	0.	1965	-5.	1916	-40.	2000	-75.	1979	-337.	1963	-491.	100
101	1999	0.	1972	0.	1906	-7.	1933	-49.	1984	-83.	1903	-358.	1959	-511.	101
102	2000	0.	1974	0.	1953	-13.	1989	-55.	1999	-83.	1929	-358.	1899	-540.	102
103	2001	0.	1975	0.	1966	-14.	2002	-85.	1976	-115.	1946	-360.	1970	-544.	103
104	2002	0.	1976	0.	1957	-22.	1990	-125.	1954	-121.	1910	-389.	1994	-551.	104
105	1898	0.	1934	-2.	1937	-31.	1943	-128.	1930	-153.	1945	-515.	1977	-581.	105

Severity Index	November	December	January	February	March	April
Upper Bound	year	FDD	year	FDD	year	FDD
Above Normal	1948	43.	2001	286.	1945	409.
Normal	1898	11.	1952	185.	1905	297.
Below Normal	1935	0.	1912	0.	1949	11.
Mild	1972	0.	1906	-7.	1933	-49.

Table 6.15 Ranked Monthly FDD Accumulations at Erie, PA.

Rank	October		November		December		January		February		March		April		Rank	
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD		
1	1918		2.	1904	74.	1990	320.	1977	605.	1979	504.	1960	229.	1921	0.	1
2	1899		0.	1951	54.	1959	272.	1918	527.	1934	504.	1900	160.	1973	0.	2
3	1900		0.	1930	50.	1918	266.	1912	491.	1978	490.	1916	142.	1953	0.	3
4	1901		0.	1937	49.	1977	250.	1970	470.	1904	396.	1978	128.	1949	0.	4
5	1902		0.	1957	41.	2001	249.	1920	425.	1963	389.	1984	125.	1946	0.	5
6	1903		0.	1931	36.	1984	249.	1994	423.	1901	365.	1906	117.	1898	0.	6
7	1904		0.	1959	36.	1961	245.	1940	401.	1914	364.	1970	113.	1998	0.	7
8	1905		0.	1977	34.	1910	230.	1904	398.	1936	362.	1912	110.	1990	0.	8
9	1906		0.	1939	25.	1963	229.	1982	398.	1905	342.	1941	99.	2000	0.	9
10	1907		0.	1948	22.	1904	223.	1945	391.	1917	335.	1996	90.	1991	0.	10
11	1908		0.	1899	22.	1986	212.	1981	385.	1968	328.	1915	88.	2002	0.	11
12	1909		0.	1918	18.	1915	211.	1979	385.	1980	322.	1940	85.	1938	-4.	12
13	1910		0.	1953	18.	1964	209.	1978	378.	1912	320.	1965	77.	1919	-7.	13
14	1911		0.	1956	18.	1920	203.	1963	376.	1916	320.	1926	76.	1983	-11.	14
15	1912		0.	1968	16.	1970	194.	1976	344.	1899	308.	1950	70.	1933	-34.	15
16	1913		0.	1978	14.	1981	191.	1985	336.	1902	304.	1972	68.	1913	-43.	16
17	1914		0.	1925	14.	1936	189.	1966	329.	1907	301.	1971	63.	1932	-61.	17
18	1915		0.	1975	14.	1911	189.	1984	322.	1958	299.	1932	61.	1909	-63.	18
19	1916		0.	1902	14.	1996	175.	1971	311.	1923	279.	1937	50.	1927	-88.	19
20	1917		0.	1980	11.	1946	173.	1948	304.	1920	266.	1934	38.	1987	-99.	20
21	1919		0.	1905	11.	1951	166.	1905	301.	1972	266.	1980	32.	1992	-101.	21
22	1920		0.	1960	9.	1925	166.	1961	288.	1970	250.	1947	11.	1903	-101.	22
23	1921		0.	1926	9.	1917	164.	1957	283.	1908	248.	1956	11.	1995	-102.	23
24	1922		0.	1898	9.	1905	164.	1959	270.	1924	248.	1993	10.	1989	-103.	24
25	1923		0.	1966	9.	1944	157.	1968	265.	1982	241.	1969	5.	1937	-103.	25
26	1924		0.	1961	7.	1927	144.	1936	259.	1947	239.	1998	0.	1929	-106.	26
27	1925		0.	1965	7.	1994	142.	1962	252.	1942	239.	1909	0.	1939	-106.	27
28	1926		0.	1979	7.	1952	137.	1997	245.	1973	232.	1975	-2.	1997	-109.	28
29	1927		0.	1906	7.	1926	130.	1996	231.	1910	229.	1944	-4.	1954	-140.	29
30	1928		0.	1938	7.	1956	126.	1965	229.	1993	222.	1953	-5.	1999	-148.	30
31	1929		0.	1912	5.	1903	124.	1925	220.	1900	221.	2001	-11.	1945	-149.	31
32	1930		0.	1967	5.	1902	124.	1929	211.	1994	220.	1899	-11.	1922	-155.	32
33	1931		0.	1990	5.	1978	122.	1902	209.	1967	220.	1914	-13.	1952	-164.	33
34	1932		0.	1973	4.	1900	122.	1924	203.	1913	218.	2002	-14.	1967	-169.	34
35	1933		0.	1916	4.	1945	121.	1955	200.	1995	214.	1959	-14.	1931	-171.	35
36	1934		0.	1970	4.	1962	119.	1943	196.	1989	212.	1949	-18.	1935	-175.	36
37	1935		0.	2000	3.	1943	113.	1922	196.	1962	211.	1924	-23.	1950	-176.	37
38	1936		0.	1997	2.	1935	94.	1956	196.	1974	209.	1954	-25.	1925	-182.	38
39	1937		0.	1936	2.	1976	94.	1899	180.	1964	209.	1928	-29.	1975	-203.	39
40	1938		0.	1946	2.	1971	92.	1958	180.	1929	203.	1911	-31.	1976	-203.	40
41	1939		0.	1964	0.	1898	90.	1930	176.	1977	196.	1981	-34.	1955	-211.	41
42	1940		0.	1969	0.	1938	88.	1999	172.	1926	185.	1930	-34.	1930	-212.	42
43	1941		0.	1971	0.	1969	88.	1980	169.	1941	180.	1999	-37.	1908	-218.	43
44	1942		0.	1972	0.	1934	81.	1917	169.	1988	180.	1994	-37.	1988	-220.	44
45	1943		0.	1974	0.	1923	81.	1903	169.	1969	178.	1962	-38.	1942	-223.	45
46	1944		0.	1976	0.	1899	76.	1927	167.	1985	172.	1919	-41.	1907	-227.	46
47	1945		0.	1981	0.	2002	75.	1915	167.	1918	171.	1958	-43.	1926	-232.	47
48	1946		0.	1982	0.	1974	74.	1954	166.	1906	169.	1923	-47.	1972	-241.	48
49	1947		0.	1983	0.	1979	70.	1938	160.	1935	167.	1933	-49.	1974	-243.	49
50	1948		0.	1984	0.	2000	70.	1972	157.	1996	162.	1931	-58.	1904	-245.	50
51	1949		0.	1985	0.	1999	69.	1935	155.	1959	160.	1992	-61.	1957	-248.	51
52	1950		0.	1986	0.	1921	68.	1910	155.	1966	155.	1901	-65.	1951	-252.	52
53	1951		0.	1987	0.	1930	65.	1969	153.	1965	151.	1952	-67.	1971	-257.	53
54	1952		0.	1988	0.	1940	65.	2000	151.	1940	148.	1904	-72.	1947	-257.	54
55	1953		0.	1989	0.	1933	63.	1926	149.	1986	141.	1939	-72.	1928	-259.	55
56	1954		0.	1991	0.	1922	59.	1988	148.	1987	131.	1982	-76.	1911	-263.	56
57	1955		0.	1992	0.	1968	59.	1942	144.	1971	130.	1967	-79.	1943	-266.	57
58	1956		0.	1993	0.	1982	59.	1907	140.	1928	126.	1983	-83.	1993	-269.	58
59	1957		0.	1994	0.	1931	47.	1986	139.	1903	117.	1957	-94.	1944	-270.	59
60	1958		0.	1995	0.	1967	47.	1987	137.	1948	108.	1943	-95.	1910	-275.	60
61	1959		0.	1996	0.	1901	47.	1941	131.	1960	101.	1955	-104.	1986	-284.	61
62	1960		0.	1998	0.	1954	47.	2001	127.	1943	101.	1974	-104.	1906	-288.	62
63	1961		0.	1999	0.	1907	47.	1928	126.	1975	101.	1921	-104.	1965	-288.	63
64	1962		0.	2001	0.	1939	41.	1908	126.	1951	101.	1989	-110.	1948	-293.	64
65	1963		0.	2002	0.	1916	40.	1991	122.	1946	97.	1917	-122.	1978	-293.	65
66	1964		0.	1900	0.	1928	38.	1923	103.	1944	97.	1991	-125.	1940	-301.	66

Table 6.15 cont. Ranked Monthly FDD Accumulations at Erie, PA.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
67	1965	0.	1901	0.	1992	34.	1931	99.	1945	97.	1905	-126.	1961	-301.	67
68	1966	0.	1903	0.	1975	32.	1901	99.	1950	94.	1988	-126.	1979	-308.	68
69	1967	0.	1907	0.	1914	31.	1992	92.	1955	92.	1968	-133.	1966	-310.	69
70	1968	0.	1908	0.	1949	29.	1951	74.	1956	90.	1951	-139.	1936	-311.	70
71	1969	0.	1909	0.	1989	27.	1900	74.	1898	88.	1979	-140.	1920	-311.	71
72	1970	0.	1910	0.	1991	23.	1973	74.	1961	74.	1964	-142.	1982	-315.	72
73	1971	0.	1911	0.	1948	22.	1960	70.	1933	72.	1997	-145.	1914	-328.	73
74	1972	0.	1913	0.	1955	22.	1995	67.	1911	67.	1948	-157.	1956	-337.	74
75	1973	0.	1914	0.	1947	22.	1939	67.	1922	63.	1908	-158.	1964	-338.	75
76	1974	0.	1915	0.	1919	20.	1975	65.	1952	56.	1922	-162.	1980	-338.	76
77	1975	0.	1917	0.	1988	19.	1983	63.	1981	49.	1990	-166.	1985	-340.	77
78	1976	0.	1919	0.	1998	18.	1974	61.	1939	45.	1961	-167.	1901	-346.	78
79	1977	0.	1920	0.	1983	18.	1964	59.	1931	45.	1985	-168.	1905	-347.	79
80	1978	0.	1921	0.	1909	9.	1946	43.	1937	41.	1942	-169.	1917	-356.	80
81	1979	0.	1922	0.	1972	9.	1934	41.	2001	41.	1966	-171.	1996	-359.	81
82	1980	0.	1923	0.	1942	7.	1993	37.	1992	36.	1987	-172.	1923	-376.	82
83	1981	0.	1924	0.	1960	7.	1911	36.	1957	34.	1913	-175.	1924	-376.	83
84	1982	0.	1927	0.	1997	5.	1952	36.	1915	29.	1936	-175.	1918	-378.	84
85	1983	0.	1928	0.	1912	5.	1898	34.	1909	27.	1963	-176.	1916	-387.	85
86	1984	0.	1929	0.	1929	4.	1914	29.	1919	23.	1995	-180.	1934	-391.	86
87	1985	0.	1932	0.	1950	4.	1909	25.	1921	18.	1925	-196.	1970	-392.	87
88	1986	0.	1933	0.	1987	3.	1944	20.	1938	16.	1918	-196.	1912	-398.	88
89	1987	0.	1934	0.	1908	2.	1998	20.	1983	14.	1920	-198.	2001	-406.	89
90	1988	0.	1935	0.	1995	2.	1921	18.	2002	4.	1986	-208.	1900	-409.	90
91	1989	0.	1940	0.	1932	0.	1932	14.	1927	4.	1976	-211.	1941	-409.	91
92	1990	0.	1941	0.	1913	0.	1949	11.	2000	3.	1907	-212.	1902	-412.	92
93	1991	0.	1942	0.	1941	0.	1950	11.	1997	3.	1902	-221.	1984	-419.	93
94	1992	0.	1943	0.	1953	0.	1937	9.	1953	-5.	1898	-223.	1960	-419.	94
95	1993	0.	1944	0.	1985	0.	1919	2.	1932	-14.	1927	-227.	1969	-425.	95
96	1994	0.	1945	0.	1993	0.	1913	0.	1949	-18.	2000	-227.	1962	-434.	96
97	1995	0.	1947	0.	1924	0.	1906	-2.	1976	-20.	1935	-238.	1958	-437.	97
98	1996	0.	1949	0.	1958	0.	1953	-9.	1991	-20.	1977	-265.	1963	-443.	98
99	1997	0.	1950	0.	1973	-5.	1947	-14.	1925	-23.	1938	-272.	1959	-455.	99
100	1998	0.	1952	0.	1906	-5.	1967	-25.	1990	-37.	1973	-306.	1981	-463.	100
101	1999	0.	1954	0.	1966	-9.	1989	-27.	1998	-38.	1903	-310.	1977	-472.	101
102	2000	0.	1955	0.	1965	-9.	1916	-41.	1954	-43.	1946	-313.	1899	-473.	102
103	2001	0.	1958	0.	1980	-11.	1933	-52.	1930	-43.	1929	-313.	1968	-490.	103
104	2002	0.	1962	0.	1957	-14.	2002	-65.	1999	-57.	1910	-342.	1915	-491.	104
105	1898	0.	1963	0.	1937	-49.	1990	-122.	1984	-116.	1945	-459.	1994	-512.	105

Severity Index	November	December	January	February	March	April
Upper Bound	year	FDD	year	FDD	year	FDD
Above Normal	1931	36.	1984	249.	1994	423.
Normal	1960	9.	1925	166.	1961	288.
Below Normal	1928	0.	1912	5.	1898	34.
Mild	1954	0.	1966	-9.	1989	-27.

Table 6.16 Ranked Monthly FDD Accumulations at Buffalo, NY.

Rank	October		November		December		January		February		March		April		Rank	
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD		
1	1907		2.	1937	76.	1990	443.	1977	563.	1934	571.	1960	245.	1953	0.	1
2	1926		2.	1904	65.	1918	349.	1918	556.	1979	482.	1900	205.	1998	0.	2
3	1918		2.	1930	52.	1961	340.	1920	509.	1978	464.	1941	178.	1921	0.	3
4	1901		0.	1957	49.	1977	313.	1912	508.	1904	441.	1984	173.	2002	-17.	4
5	1902		0.	1959	43.	1959	302.	1945	488.	1914	425.	1926	160.	1919	-43.	5
6	1903		0.	1918	41.	2001	298.	1982	461.	1905	410.	1940	157.	1949	-52.	6
7	1904		0.	1975	38.	1984	291.	1994	453.	1901	396.	1906	153.	1991	-68.	7
8	1905		0.	1939	38.	1963	281.	1970	446.	1917	394.	1916	151.	1926	-88.	8
9	1906		0.	1948	36.	1920	270.	1940	428.	1936	392.	1912	140.	1983	-99.	9
10	1908		0.	1973	34.	1911	270.	1961	421.	1916	380.	1915	131.	1898	-106.	10
11	1909		0.	1977	32.	1964	268.	1948	416.	1963	371.	1937	131.	1943	-146.	11
12	1910		0.	1899	32.	1946	252.	1963	407.	1912	362.	1950	117.	1973	-148.	12
13	1911		0.	1931	29.	1905	243.	1981	396.	1920	349.	1978	117.	1932	-155.	13
14	1912		0.	1951	29.	1915	243.	1904	394.	1907	349.	1932	108.	2000	-159.	14
15	1913		0.	1902	27.	1996	238.	1966	385.	1968	331.	1934	106.	1995	-168.	15
16	1914		0.	1997	26.	1936	238.	1976	382.	1958	326.	1923	85.	1907	-178.	16
17	1915		0.	1946	25.	1981	229.	1968	378.	1967	322.	1996	84.	1933	-184.	17
18	1916		0.	1990	24.	1970	227.	1905	373.	1923	319.	1971	70.	1913	-185.	18
19	1917		0.	1950	22.	1986	223.	1984	362.	1980	315.	1965	67.	1903	-200.	19
20	1919		0.	1978	20.	1956	216.	1978	358.	1942	311.	1947	65.	1904	-202.	20
21	1920		0.	1979	20.	1904	214.	1979	356.	1993	311.	1944	61.	1987	-204.	21
22	1921		0.	1953	20.	1925	211.	1957	355.	1924	308.	1930	61.	1936	-209.	22
23	1922		0.	1925	20.	1927	211.	1985	353.	1899	304.	1970	61.	1939	-212.	23
24	1923		0.	1926	20.	1943	211.	1971	347.	1962	299.	1914	58.	1975	-220.	24
25	1924		0.	1956	20.	1910	207.	1943	331.	1947	292.	1972	58.	1928	-227.	25
26	1925		0.	1905	18.	1945	205.	1925	319.	1972	292.	1943	54.	1961	-234.	26
27	1927		0.	1968	18.	1917	202.	1959	302.	1908	284.	1939	52.	1946	-234.	27
28	1928		0.	1965	14.	1944	198.	1962	293.	1926	284.	1909	52.	1950	-238.	28
29	1929		0.	1941	14.	1934	191.	1996	287.	1995	277.	1928	49.	1940	-245.	29
30	1930		0.	1960	14.	1971	191.	1922	275.	1902	275.	1956	47.	1914	-247.	30
31	1931		0.	1898	13.	1969	189.	1936	275.	1910	275.	1975	38.	1920	-248.	31
32	1932		0.	1972	13.	1935	173.	1927	272.	1913	274.	1969	36.	1917	-252.	32
33	1933		0.	1934	13.	1952	173.	1954	266.	1974	272.	1967	34.	1923	-252.	33
34	1934		0.	2001	13.	1926	167.	1965	261.	1929	268.	1959	34.	1937	-261.	34
35	1935		0.	1944	13.	1903	167.	1999	257.	1900	257.	1933	34.	1908	-263.	35
36	1936		0.	1906	11.	1907	162.	1929	257.	1973	256.	1911	32.	1954	-265.	36
37	1937		0.	1966	11.	1974	155.	1935	256.	1918	254.	1993	30.	1997	-268.	37
38	1938		0.	1933	11.	1994	153.	2000	253.	1989	253.	1924	27.	1935	-270.	38
39	1939		0.	1961	7.	1951	153.	1942	241.	1994	250.	1999	25.	1905	-272.	39
40	1940		0.	1952	7.	1976	149.	1917	238.	1964	250.	2001	18.	1972	-274.	40
41	1941		0.	1980	7.	1930	144.	1941	234.	1982	248.	1980	5.	1944	-274.	41
42	1942		0.	1996	6.	1978	133.	1956	234.	1941	234.	1992	4.	1965	-275.	42
43	1943		0.	1943	5.	1916	131.	1938	232.	1935	230.	1899	4.	1924	-275.	43
44	1944		0.	1923	5.	1962	131.	1924	230.	1996	221.	1904	-11.	1938	-283.	44
45	1945		0.	1970	5.	1898	128.	1930	229.	1959	218.	1962	-13.	1930	-283.	45
46	1946		0.	1984	4.	1938	128.	1955	225.	1988	217.	1982	-13.	1982	-288.	46
47	1947		0.	1938	4.	1900	121.	1902	223.	1986	212.	1931	-16.	1971	-293.	47
48	1948		0.	1964	4.	1923	117.	1969	218.	1969	207.	1901	-20.	1909	-293.	48
49	1949		0.	1987	3.	1948	115.	1997	218.	1940	207.	1905	-22.	1989	-303.	49
50	1950		0.	1908	2.	1947	113.	1958	214.	1977	207.	1954	-27.	1918	-310.	50
51	1951		0.	1945	2.	1967	113.	1926	209.	1946	207.	1974	-31.	1988	-311.	51
52	1952		0.	1916	2.	1982	110.	1915	205.	1985	203.	1917	-34.	1912	-311.	52
53	1953		0.	1962	2.	2000	104.	1986	203.	1970	203.	1908	-36.	1957	-313.	53
54	1954		0.	1912	2.	1955	104.	1899	203.	1950	202.	1998	-36.	1996	-313.	54
55	1955		0.	1994	1.	1922	104.	1972	202.	1966	198.	1989	-40.	1978	-315.	55
56	1956		0.	1913	0.	1940	103.	1931	200.	1948	196.	1997	-40.	1951	-319.	56
57	1957		0.	1914	0.	1902	99.	1907	200.	1987	196.	1952	-47.	1916	-322.	57
58	1958		0.	1915	0.	1999	93.	1923	198.	1928	193.	1994	-51.	1934	-322.	58
59	1959		0.	1917	0.	1992	90.	1980	193.	1906	182.	1949	-52.	1911	-324.	59
60	1960		0.	1919	0.	1989	87.	1987	185.	1944	176.	1955	-54.	1990	-325.	60
61	1961		0.	1920	0.	1931	85.	1903	184.	1965	175.	1981	-58.	1952	-326.	61
62	1962		0.	1921	0.	1899	79.	1991	180.	1943	173.	1964	-59.	1927	-326.	62
63	1963		0.	1922	0.	1965	79.	1910	180.	1945	162.	1961	-67.	1956	-331.	63
64	1964		0.	1924	0.	1909	77.	1939	178.	1961	155.	2002	-77.	1966	-337.	64
65	1965		0.	1927	0.	1949	74.	1928	178.	1911	153.	1958	-77.	1906	-337.	65
66	1966		0.	1928	0.	1979	72.	1908	173.	1971	144.	1918	-79.	1947	-340.	66

Table 6.16 cont. Ranked Monthly FDD Accumulations at Buffalo, NY.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
67	1967	0.	1929	0.	1933	72.	1960	173.	1903	142.	1966	-83.	1900	-346.	67
68	1968	0.	1932	0.	2002	72.	1900	169.	1960	139.	1948	-86.	1929	-349.	68
69	1969	0.	1935	0.	1928	72.	1901	169.	1931	139.	1913	-86.	1992	-358.	69
70	1970	0.	1936	0.	1921	70.	1988	161.	1922	137.	1936	-92.	1963	-365.	70
71	1971	0.	1940	0.	1901	70.	1983	157.	1898	131.	1907	-95.	1979	-367.	71
72	1972	0.	1942	0.	1968	59.	1974	151.	1939	131.	1922	-95.	1976	-374.	72
73	1973	0.	1947	0.	1960	58.	2001	147.	1951	130.	1951	-101.	1925	-383.	73
74	1974	0.	1949	0.	1954	54.	1992	146.	1933	128.	1953	-103.	1962	-387.	74
75	1975	0.	1954	0.	1939	49.	1973	139.	1992	119.	1963	-106.	1922	-387.	75
76	1976	0.	1955	0.	1991	43.	1934	139.	1955	117.	1988	-107.	1955	-389.	76
77	1977	0.	1958	0.	1988	40.	1946	133.	1956	108.	1919	-108.	1931	-392.	77
78	1978	0.	1963	0.	1973	38.	1911	119.	1938	99.	1985	-112.	1962	-396.	78
79	1979	0.	1967	0.	1914	36.	1898	119.	2001	94.	1968	-113.	1999	-400.	79
80	1980	0.	1969	0.	1998	32.	1952	110.	1937	94.	1925	-115.	1901	-414.	80
81	1981	0.	1971	0.	1919	29.	1951	108.	1919	88.	1957	-121.	1959	-419.	81
82	1982	0.	1974	0.	1942	29.	1909	104.	1952	85.	1920	-128.	1967	-423.	82
83	1983	0.	1976	0.	1912	27.	1993	97.	1930	83.	1942	-128.	1980	-425.	83
84	1984	0.	1981	0.	1953	25.	1914	95.	1975	81.	1986	-129.	1974	-425.	84
85	1985	0.	1982	0.	1932	20.	1921	88.	1921	77.	1935	-131.	1910	-428.	85
86	1986	0.	1983	0.	1997	18.	1964	85.	1927	74.	1927	-133.	1942	-443.	86
87	1987	0.	1985	0.	1995	17.	1944	70.	1990	71.	1983	-144.	1969	-443.	87
88	1988	0.	1986	0.	1983	16.	1967	68.	1983	68.	1990	-160.	1984	-444.	88
89	1989	0.	1988	0.	1929	13.	1998	66.	1909	65.	1976	-164.	1964	-446.	89
90	1990	0.	1989	0.	1908	11.	1947	65.	1915	59.	1987	-177.	1993	-446.	90
91	1991	0.	1991	0.	1975	9.	1995	62.	2000	55.	1938	-180.	1970	-446.	91
92	1992	0.	1992	0.	1993	8.	1975	61.	1997	46.	1991	-187.	1985	-446.	92
93	1993	0.	1993	0.	1972	7.	1919	32.	1953	40.	1995	-188.	1915	-448.	93
94	1994	0.	1995	0.	1913	2.	1949	22.	1957	36.	1929	-189.	1977	-448.	94
95	1995	0.	1998	0.	1985	2.	1953	22.	1925	34.	1979	-193.	1981	-454.	95
96	1996	0.	1999	0.	1924	0.	1937	20.	1991	32.	1902	-221.	1899	-463.	96
97	1997	0.	2000	0.	1958	0.	1989	15.	1932	27.	1910	-238.	1958	-464.	97
98	1998	0.	2002	0.	1980	-2.	1950	9.	1999	25.	1921	-239.	2001	-465.	98
99	1999	0.	1901	0.	1987	-3.	1906	9.	2002	16.	1977	-241.	1945	-473.	99
100	2000	0.	1903	0.	1906	-7.	2002	6.	1949	7.	2000	-253.	1986	-474.	100
101	2001	0.	1900	0.	1957	-9.	1916	2.	1976	5.	1898	-283.	1941	-491.	101
102	2002	0.	1909	0.	1966	-11.	1913	2.	1981	-25.	1903	-293.	1960	-491.	102
103	1898	0.	1910	0.	1950	-11.	1932	0.	1954	-29.	1973	-320.	1994	-494.	103
104	1899	0.	1911	0.	1941	-16.	1990	-53.	1998	-62.	1945	-383.	1948	-504.	104
105	1900	0.	1907	-2.	1937	-56.	1933	-65.	1984	-68.	1946	-385.	1968	-515.	105

Severity Index	November	December	January	February	March	April
Upper Bound	year	FDD	year	FDD	year	FDD
Above Normal	1918	41.	2001	298.	1905	410.
Normal	1953	20.	1925	211.	1924	308.
Below Normal	1982	0.	1932	20.	1921	88.
Mild	1900	0.	1957	-9.	1916	2.

Table 6.17 Ranked Monthly FDD Accumulations at Rochester, NY.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
1	1898	0.	1904	83.	1990	462.	1918	536.	1934	542.	1960	297.	1921	0.	1
2	1899	0.	1937	76.	1918	358.	1994	531.	1979	513.	1941	212.	1953	0.	2
3	1900	0.	1918	52.	1959	329.	1945	522.	1904	455.	1900	203.	1998	0.	3
4	1901	0.	1902	49.	1964	320.	1977	511.	1978	441.	1984	192.	2002	0.	4
5	1902	0.	1930	47.	1961	304.	1981	504.	1914	412.	1916	180.	1919	-34.	5
6	1903	0.	1939	43.	1911	301.	1982	493.	1901	398.	1940	144.	1973	-58.	6
7	1904	0.	1957	43.	2001	283.	1920	491.	1963	394.	1906	135.	1898	-72.	7
8	1905	0.	1959	40.	1946	279.	1912	481.	1936	383.	1950	135.	1983	-74.	8
9	1906	0.	1997	38.	1945	272.	1970	434.	1905	380.	1926	121.	1995	-81.	9
10	1907	0.	1948	34.	1920	268.	1940	421.	1917	373.	1912	119.	1933	-90.	10
11	1908	0.	1990	34.	1977	263.	1948	419.	1993	373.	1937	112.	1949	-119.	11
12	1909	0.	1899	32.	1963	263.	1904	405.	1916	371.	1971	110.	1932	-131.	12
13	1910	0.	1931	32.	1905	254.	1963	394.	1980	358.	1956	103.	1991	-142.	13
14	1911	0.	1975	32.	1904	252.	1957	392.	1958	355.	1996	102.	2000	-150.	14
15	1912	0.	1973	31.	1981	248.	1961	392.	1912	347.	1992	83.	1938	-153.	15
16	1913	0.	1950	29.	1915	239.	1971	389.	1907	340.	1915	81.	1913	-158.	16
17	1914	0.	1977	27.	1936	238.	1968	382.	1968	328.	1965	79.	1929	-180.	17
18	1915	0.	1905	27.	1956	238.	1976	380.	1924	320.	1932	74.	1903	-184.	18
19	1916	0.	1972	25.	1986	235.	1905	360.	1923	311.	1978	74.	1943	-196.	19
20	1917	0.	1941	25.	1943	234.	1984	359.	1908	311.	1944	72.	1975	-218.	20
21	1918	0.	1956	22.	1971	232.	1943	358.	1994	305.	1923	65.	1937	-220.	21
22	1919	0.	1968	18.	1984	231.	1985	327.	1962	299.	1993	61.	1926	-227.	22
23	1920	0.	1944	18.	1944	223.	1979	326.	1967	297.	1947	61.	1944	-243.	23
24	1921	0.	1925	16.	1927	218.	1965	322.	1920	297.	1959	56.	1907	-248.	24
25	1922	0.	1960	16.	1970	218.	1966	322.	1947	293.	1972	56.	1904	-252.	25
26	1923	0.	1951	16.	1996	210.	1959	315.	1913	290.	2001	53.	1950	-265.	26
27	1924	0.	1953	14.	1925	209.	1954	295.	1942	283.	1914	40.	1971	-270.	27
28	1925	0.	1933	14.	1910	209.	1922	293.	1910	277.	1970	38.	1927	-277.	28
29	1926	0.	1898	14.	1917	200.	1925	293.	1973	274.	1999	37.	1965	-279.	29
30	1927	0.	1926	14.	1903	196.	1941	284.	1902	270.	1901	27.	1909	-290.	30
31	1928	0.	1966	14.	1935	194.	1962	283.	1899	270.	1909	25.	1961	-290.	31
32	1929	0.	1952	14.	1934	189.	1999	282.	1989	269.	1939	20.	1936	-299.	32
33	1930	0.	1979	13.	1907	182.	1978	279.	1974	268.	1911	20.	1914	-299.	33
34	1931	0.	1906	13.	1952	178.	1956	277.	1941	266.	1934	16.	1997	-299.	34
35	1932	0.	1996	12.	1951	175.	2000	274.	1959	266.	1975	14.	1987	-300.	35
36	1933	0.	1965	11.	1994	168.	1935	270.	1900	261.	1904	13.	1989	-301.	36
37	1934	0.	1978	11.	1948	164.	1902	268.	1982	254.	1943	9.	1939	-302.	37
38	1935	0.	1946	11.	1976	160.	1936	268.	1972	250.	1899	9.	1972	-306.	38
39	1936	0.	2001	10.	1969	160.	1955	265.	1948	247.	1930	5.	1920	-306.	39
40	1937	0.	1943	9.	1926	153.	1996	258.	1946	241.	1969	0.	1956	-306.	40
41	1938	0.	2000	7.	1930	142.	1958	254.	1988	239.	1954	0.	1931	-310.	41
42	1939	0.	1962	7.	1955	135.	1923	250.	1987	236.	1994	-1.	1940	-313.	42
43	1940	0.	1980	5.	1947	135.	1980	248.	1918	234.	1928	-5.	1906	-324.	43
44	1941	0.	1961	5.	1902	133.	1927	238.	1970	232.	1989	-8.	1917	-324.	44
45	1942	0.	1916	4.	1900	130.	1997	238.	1964	232.	1980	-11.	1996	-328.	45
46	1943	0.	1934	4.	1962	128.	1929	234.	1926	230.	1924	-13.	1982	-337.	46
47	1944	0.	1984	4.	1922	128.	1942	234.	1995	229.	1967	-14.	1928	-340.	47
48	1945	0.	1994	3.	1898	126.	1917	232.	1944	229.	1933	-18.	1930	-342.	48
49	1946	0.	1987	3.	1916	126.	1960	230.	1940	216.	1997	-26.	1976	-342.	49
50	1947	0.	1945	2.	1923	126.	1907	225.	1950	214.	1974	-31.	1924	-344.	50
51	1948	0.	1964	2.	1978	126.	1938	225.	1935	212.	1955	-32.	1905	-346.	51
52	1949	0.	1982	2.	1901	124.	1986	219.	1986	212.	1952	-40.	1925	-347.	52
53	1950	0.	1912	2.	1899	121.	1988	218.	1929	211.	2002	-41.	1978	-349.	53
54	1951	0.	1917	2.	1938	121.	1991	213.	1996	198.	1982	-45.	1954	-349.	54
55	1952	0.	1938	2.	1982	117.	1901	212.	1945	193.	1962	-49.	1923	-351.	55
56	1953	0.	1913	2.	1940	112.	1969	212.	1906	185.	1958	-52.	1992	-353.	56
57	1954	0.	1908	2.	1989	109.	1924	209.	1977	185.	1905	-58.	1912	-358.	57
58	1955	0.	1919	0.	1974	108.	1987	208.	1966	182.	1917	-58.	1990	-360.	58
59	1956	0.	1920	0.	1992	108.	1899	203.	1985	180.	1949	-65.	1979	-360.	59
60	1957	0.	1921	0.	2000	99.	1903	200.	1965	178.	1948	-65.	1966	-362.	60
61	1958	0.	1922	0.	1999	97.	1908	200.	1955	175.	1961	-72.	1946	-362.	61
62	1959	0.	1923	0.	1949	92.	1915	198.	1960	173.	1988	-73.	1985	-363.	62
63	1960	0.	1924	0.	1979	88.	1910	191.	1969	169.	1957	-74.	1908	-369.	63
64	1961	0.	1927	0.	1909	85.	1972	185.	1951	164.	1964	-76.	1911	-369.	64
65	1962	0.	1928	0.	1967	83.	1939	185.	1943	158.	1981	-77.	1935	-373.	65
66	1963	0.	1929	0.	1921	83.	1930	184.	1928	157.	1998	-82.	1947	-374.	66

Table 6.17 cont. Ranked Monthly FDD Accumulations at Rochester, NY.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
67	1964	0.	1932	0.	1942	79.	1992	180.	1956	151.	1931	-90.	1922	-378.	67
68	1965	0.	1935	0.	1931	79.	1931	180.	1911	149.	1908	-95.	1988	-379.	68
69	1966	0.	1936	0.	1960	77.	1946	176.	1971	142.	1951	-104.	1910	-382.	69
70	1967	0.	1940	0.	1928	77.	1926	169.	1939	131.	1942	-110.	1934	-383.	70
71	1968	0.	1942	0.	1965	74.	1914	155.	1898	131.	1919	-110.	1952	-385.	71
72	1969	0.	1947	0.	1993	66.	1974	153.	1961	126.	1918	-112.	1918	-392.	72
73	1970	0.	1949	0.	1954	61.	2001	153.	1992	119.	1963	-115.	1951	-394.	73
74	1971	0.	1954	0.	1968	58.	1983	144.	1903	113.	1968	-122.	1967	-398.	74
75	1972	0.	1955	0.	2002	57.	1993	142.	1922	106.	1920	-126.	1999	-399.	75
76	1973	0.	1958	0.	1988	56.	1900	142.	1931	106.	1913	-131.	1962	-409.	76
77	1974	0.	1963	0.	1914	56.	1951	142.	1975	103.	1953	-137.	1916	-414.	77
78	1975	0.	1967	0.	1939	45.	1911	139.	1933	99.	1966	-142.	1901	-425.	78
79	1976	0.	1969	0.	1991	43.	1934	137.	1952	99.	1985	-144.	1963	-425.	79
80	1977	0.	1970	0.	1941	40.	1928	135.	2001	97.	1922	-151.	1902	-427.	80
81	1978	0.	1971	0.	1972	36.	1898	133.	1937	85.	1986	-154.	1957	-428.	81
82	1979	0.	1974	0.	1998	35.	1952	131.	1983	81.	1991	-156.	1984	-436.	82
83	1980	0.	1976	0.	1919	34.	1964	115.	1909	79.	1987	-157.	1959	-436.	83
84	1981	0.	1981	0.	1933	34.	1973	110.	1990	77.	1976	-158.	1993	-446.	84
85	1982	0.	1983	0.	1980	34.	1944	104.	1919	77.	1983	-160.	1964	-457.	85
86	1983	0.	1985	0.	1953	32.	1909	99.	1915	76.	1907	-162.	1969	-468.	86
87	1984	0.	1986	0.	1912	31.	1921	90.	1938	70.	1936	-164.	1900	-470.	87
88	1985	0.	1988	0.	1932	31.	1947	86.	1957	58.	1925	-164.	2001	-470.	88
89	1986	0.	1989	0.	1975	20.	1975	81.	2000	54.	1990	-165.	1980	-475.	89
90	1987	0.	1991	0.	1995	18.	1998	63.	1930	52.	1935	-178.	1958	-475.	90
91	1988	0.	1992	0.	1929	11.	1989	54.	1921	52.	1995	-202.	1986	-477.	91
92	1989	0.	1993	0.	1987	10.	1949	54.	1953	49.	1979	-202.	1977	-477.	92
93	1990	0.	1995	0.	1950	7.	1953	43.	1997	43.	1927	-209.	1994	-478.	93
94	1991	0.	1998	0.	1983	7.	1995	37.	1932	43.	1921	-221.	1981	-481.	94
95	1992	0.	1999	0.	1997	6.	1919	32.	1999	42.	1902	-229.	1942	-482.	95
96	1993	0.	2002	0.	1957	5.	1967	31.	1991	42.	1977	-239.	1899	-491.	96
97	1994	0.	1900	0.	1908	5.	1937	22.	1949	40.	1938	-261.	1970	-493.	97
98	1995	0.	1901	0.	1924	0.	1913	0.	1927	31.	1929	-274.	1974	-497.	98
99	1996	0.	1903	0.	1913	0.	1906	-2.	2002	3.	2000	-284.	1960	-500.	99
100	1997	0.	1907	0.	1985	0.	1950	-11.	1954	-2.	1910	-293.	1948	-509.	100
101	1998	0.	1909	0.	1958	0.	1932	-18.	1925	-2.	1903	-322.	1968	-522.	101
102	1999	0.	1910	0.	1906	-11.	2002	-19.	1981	-7.	1973	-326.	1941	-531.	102
103	2000	0.	1911	0.	1966	-16.	1916	-20.	1998	-16.	1898	-331.	1955	-542.	103
104	2001	0.	1914	0.	1973	-32.	1933	-36.	1976	-38.	1946	-349.	1945	-551.	104
105	2002	0.	1915	0.	1937	-72.	1990	-48.	1984	-49.	1945	-364.	1915	-583.	105

Severity Index	November	December	January	February	March	April
Upper Bound	year	FDD	year	FDD	year	FDD
Above Normal	1939	43.	1911	301.	1901	398.
Normal	1968	18.	1984	231.	1985	327.
Below Normal	1983	0.	1980	34.	1944	104.
Mild	1909	0.	1958	0.	1932	-18.

Table 6.18 Ranked Monthly FDD Accumulations at Oswego, NY.

Rank	October		November		December		January		February		March		April		Rank	
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD		
1	1926		2.	1904	86.	1990	490.	1918	565.	1934	596.	1900	247.	1998	0.	1
2	1899		0.	1937	68.	1918	430.	1994	565.	1979	495.	1916	234.	2002	0.	2
3	1900		0.	1939	43.	1964	355.	1920	558.	1904	468.	1960	187.	1953	-18.	3
4	1901		0.	1918	43.	1959	326.	1912	522.	1914	441.	1912	182.	1921	-95.	4
5	1902		0.	1902	43.	1911	322.	1970	504.	1978	409.	1984	179.	2000	-110.	5
6	1903		0.	1930	41.	1981	319.	1981	495.	1905	405.	1926	171.	1933	-126.	6
7	1904		0.	1931	38.	1905	319.	1977	495.	1936	398.	1941	169.	1949	-130.	7
8	1905		0.	1905	34.	1920	308.	1904	482.	1908	392.	1906	166.	1926	-157.	8
9	1906		0.	1934	32.	1956	277.	1945	479.	1907	391.	1940	158.	1943	-160.	9
10	1907		0.	1979	31.	1936	266.	1982	470.	1916	389.	1923	131.	1983	-182.	10
11	1908		0.	1933	27.	1977	266.	1940	459.	1917	380.	1937	128.	1907	-189.	11
12	1909		0.	1975	25.	1935	265.	1976	428.	1923	378.	1950	128.	1991	-189.	12
13	1910		0.	1997	25.	1904	263.	1968	421.	1901	373.	1978	115.	1932	-198.	13
14	1911		0.	1957	25.	1927	261.	1948	396.	1924	371.	1972	112.	1973	-203.	14
15	1912		0.	1948	23.	1903	259.	1957	392.	1912	358.	1956	108.	1965	-203.	15
16	1913		0.	1959	23.	1915	259.	1925	389.	1993	352.	1944	99.	1995	-206.	16
17	1914		0.	1926	23.	2001	259.	1905	385.	1980	351.	1915	99.	1975	-212.	17
18	1915		0.	1941	23.	1925	254.	1971	374.	1913	337.	1932	92.	1972	-220.	18
19	1916		0.	1978	22.	1961	243.	1961	369.	1968	335.	1965	90.	1904	-221.	19
20	1917		0.	1977	20.	1943	241.	1935	367.	1963	324.	1905	88.	1919	-221.	20
21	1918		0.	1950	20.	1970	236.	1922	367.	1994	318.	1939	88.	1898	-230.	21
22	1919		0.	1990	18.	1934	234.	1943	364.	1920	317.	1996	85.	1944	-230.	22
23	1920		0.	1968	16.	1944	232.	1923	362.	1918	313.	1911	81.	1940	-234.	23
24	1921		0.	1996	14.	1984	228.	1985	362.	1899	306.	1992	80.	1913	-236.	24
25	1922		0.	1925	13.	1946	227.	1978	356.	1926	306.	1993	78.	1920	-238.	25
26	1923		0.	1899	13.	1971	227.	1984	356.	1972	301.	1899	76.	1956	-252.	26
27	1924		0.	1906	11.	1907	223.	1965	326.	1910	295.	1904	72.	1914	-252.	27
28	1925		0.	1956	11.	1963	221.	1996	313.	1973	292.	1971	70.	1971	-254.	28
29	1927		0.	1944	11.	1996	214.	1966	313.	1958	283.	1914	67.	1917	-254.	29
30	1928		0.	1973	11.	1910	207.	1954	308.	1942	283.	1934	63.	1978	-256.	30
31	1929		0.	1946	9.	1986	201.	1979	304.	1995	277.	1901	59.	1950	-256.	31
32	1930		0.	1898	7.	1945	194.	1936	299.	1974	275.	1909	52.	1939	-257.	32
33	1931		0.	1960	7.	1917	193.	1902	297.	1962	275.	1928	47.	1954	-257.	33
34	1932		0.	1953	7.	1976	184.	1927	292.	1947	272.	1969	47.	1905	-265.	34
35	1933		0.	1943	4.	1922	182.	1941	290.	1948	272.	1975	45.	1961	-265.	35
36	1934		0.	1965	4.	1951	171.	1963	288.	1900	270.	1970	43.	1936	-268.	36
37	1935		0.	2000	3.	1969	171.	1997	283.	1902	270.	1959	31.	1923	-272.	37
38	1936		0.	1945	2.	1952	167.	1917	279.	1964	266.	1947	27.	1928	-275.	38
39	1937		0.	1972	2.	1923	167.	1959	277.	1959	266.	1994	24.	1924	-281.	39
40	1938		0.	1907	2.	1948	160.	1907	275.	1946	263.	1924	16.	1909	-283.	40
41	1939		0.	1912	2.	1930	158.	1999	270.	1967	261.	2001	10.	1912	-290.	41
42	1940		0.	1980	2.	1994	157.	1955	270.	1935	254.	1918	5.	1908	-290.	42
43	1941		0.	1962	2.	1901	151.	1956	266.	1940	252.	1930	4.	1966	-292.	43
44	1942		0.	1908	2.	1989	149.	1903	265.	1989	251.	1989	3.	1929	-293.	44
45	1943		0.	1952	2.	1978	148.	1938	265.	1987	250.	1917	2.	1930	-295.	45
46	1944		0.	1966	2.	1902	142.	1899	259.	1906	239.	1933	2.	1937	-299.	46
47	1945		0.	1942	2.	1974	137.	1914	257.	1929	238.	1999	-1.	1987	-307.	47
48	1946		0.	1969	2.	1926	137.	1942	254.	1928	236.	1943	-2.	1996	-309.	48
49	1947		0.	1970	2.	1898	135.	1958	250.	1986	234.	1955	-2.	1989	-313.	49
50	1948		0.	1986	1.	1940	131.	1931	248.	1941	232.	1967	-5.	1911	-313.	50
51	1949		0.	1994	1.	1909	128.	1901	247.	1970	230.	1980	-7.	1918	-317.	51
52	1950		0.	1999	0.	1899	124.	1991	240.	1950	225.	2002	-8.	1935	-320.	52
53	1951		0.	2001	0.	1938	122.	1939	239.	1996	215.	1974	-23.	1934	-322.	53
54	1952		0.	2002	0.	1947	122.	1988	238.	1965	212.	1997	-25.	1916	-324.	54
55	1953		0.	1900	0.	1916	119.	2000	238.	1969	212.	1908	-31.	1992	-326.	55
56	1954		0.	1901	0.	1900	115.	1929	238.	1911	211.	1982	-34.	1967	-329.	56
57	1955		0.	1903	0.	1931	112.	1986	235.	1977	211.	1952	-34.	1903	-331.	57
58	1956		0.	1909	0.	1942	97.	1987	230.	1982	202.	1961	-36.	1927	-331.	58
59	1957		0.	1910	0.	1955	97.	1908	230.	1944	200.	1948	-38.	1947	-331.	59
60	1958		0.	1911	0.	1992	95.	1898	227.	1988	193.	1962	-40.	1946	-333.	60
61	1959		0.	1913	0.	1962	92.	1962	225.	1931	173.	1920	-43.	1963	-333.	61
62	1960		0.	1914	0.	1982	92.	1910	221.	1943	171.	1919	-45.	1938	-335.	62
63	1961		0.	1915	0.	1960	88.	1924	216.	1985	167.	1964	-45.	1979	-335.	63
64	1962		0.	1916	0.	1921	86.	1930	216.	1922	166.	1954	-56.	1906	-338.	64
65	1963		0.	1917	0.	1949	85.	1934	214.	1939	162.	1988	-57.	1997	-340.	65
66	1964		0.	1919	0.	1967	85.	1926	214.	1951	162.	1922	-65.	1982	-344.	66

Table 6.18 cont. Ranked Monthly FDD Accumulations at Oswego, NY.

Rank	October		November		December		January		February		March		April		Rank
	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	year	FDD	
67	1965	0.	1920	0.	2000	83.	1992	214.	1966	160.	1958	-67.	1925	-349.	67
68	1966	0.	1921	0.	1999	78.	1964	211.	1971	155.	1968	-67.	1900	-353.	68
69	1967	0.	1922	0.	1928	74.	1915	209.	1898	151.	1981	-74.	1901	-356.	69
70	1968	0.	1923	0.	1965	70.	1980	205.	1930	151.	1963	-74.	1962	-360.	70
71	1969	0.	1924	0.	1979	68.	1972	203.	1903	149.	1907	-74.	1951	-365.	71
72	1970	0.	1927	0.	1973	68.	1969	203.	1945	148.	1931	-79.	1964	-371.	72
73	1971	0.	1928	0.	1939	56.	1974	200.	1955	144.	1949	-83.	1922	-373.	73
74	1972	0.	1929	0.	1988	55.	1983	194.	1975	135.	1935	-92.	1952	-374.	74
75	1973	0.	1932	0.	1914	54.	1911	193.	1961	131.	1957	-95.	1988	-379.	75
76	1974	0.	1935	0.	1968	49.	1960	189.	1915	130.	1951	-99.	1984	-381.	76
77	1975	0.	1936	0.	1933	49.	1946	187.	1909	128.	1985	-108.	1959	-385.	77
78	1976	0.	1938	0.	1932	47.	1900	171.	1956	126.	1913	-110.	1999	-387.	78
79	1977	0.	1940	0.	1919	47.	1921	169.	1992	122.	1925	-110.	1902	-389.	79
80	1978	0.	1947	0.	1953	47.	2001	154.	1960	119.	1998	-113.	1931	-394.	80
81	1979	0.	1949	0.	1972	45.	1909	153.	1938	119.	1966	-124.	1980	-394.	81
82	1980	0.	1951	0.	2002	44.	1993	151.	1919	117.	1936	-126.	1957	-400.	82
83	1981	0.	1954	0.	1941	43.	1928	148.	1921	106.	1983	-130.	1899	-407.	83
84	1982	0.	1955	0.	1993	42.	1952	139.	1933	104.	1953	-135.	1993	-410.	84
85	1983	0.	1958	0.	1991	37.	1947	135.	1983	101.	1942	-135.	1970	-412.	85
86	1984	0.	1961	0.	1954	31.	1944	130.	1952	97.	1991	-142.	1960	-414.	86
87	1985	0.	1963	0.	1912	31.	1951	128.	2001	97.	1927	-146.	1969	-418.	87
88	1986	0.	1964	0.	1998	31.	1973	126.	1932	94.	1995	-149.	1958	-418.	88
89	1987	0.	1967	0.	1906	31.	1975	104.	1937	92.	1990	-153.	1990	-421.	89
90	1988	0.	1971	0.	1995	30.	1919	103.	1927	90.	1976	-157.	1985	-423.	90
91	1989	0.	1974	0.	1980	23.	1989	96.	1990	80.	1986	-158.	1977	-432.	91
92	1990	0.	1976	0.	1975	20.	1949	86.	1953	67.	1902	-166.	1968	-436.	92
93	1991	0.	1981	0.	1983	20.	1998	85.	1957	58.	1938	-171.	1976	-437.	93
94	1992	0.	1982	0.	1937	18.	1916	63.	1997	57.	1987	-173.	1955	-445.	94
95	1993	0.	1983	0.	1957	16.	1995	48.	2000	57.	1979	-175.	1981	-445.	95
96	1994	0.	1984	0.	1997	12.	1906	40.	1925	54.	1929	-191.	1948	-448.	96
97	1995	0.	1985	0.	1929	11.	1953	36.	1991	54.	1977	-200.	2001	-450.	97
98	1996	0.	1987	0.	1924	11.	1950	11.	1999	41.	1910	-212.	1942	-461.	98
99	1997	0.	1988	0.	1913	9.	1913	2.	1949	40.	1903	-261.	1910	-461.	99
100	1998	0.	1989	0.	1950	5.	1937	-4.	1976	38.	1921	-266.	1915	-466.	100
101	1999	0.	1991	0.	1908	5.	1967	-11.	2002	-1.	2000	-271.	1994	-471.	101
102	2000	0.	1992	0.	1958	2.	1990	-15.	1998	-3.	1898	-288.	1986	-473.	102
103	2001	0.	1993	0.	1985	2.	2002	-35.	1981	-9.	1973	-290.	1941	-475.	103
104	2002	0.	1995	0.	1987	0.	1932	-38.	1954	-25.	1946	-311.	1945	-484.	104
105	1898	0.	1998	0.	1966	-2.	1933	-59.	1984	-33.	1945	-333.	1974	-488.	105

Severity Index	November	December	January	February	March	April
Upper Bound	year	FDD	year	FDD	year	FDD
Above Normal	1930	41.	1981	319.	1981	495.
Normal	1990	18.	1934	234.	1943	364.
Below Normal	1958	0.	1991	37.	1947	135.
Mild	1991	0.	1908	5.	1967	-11.