

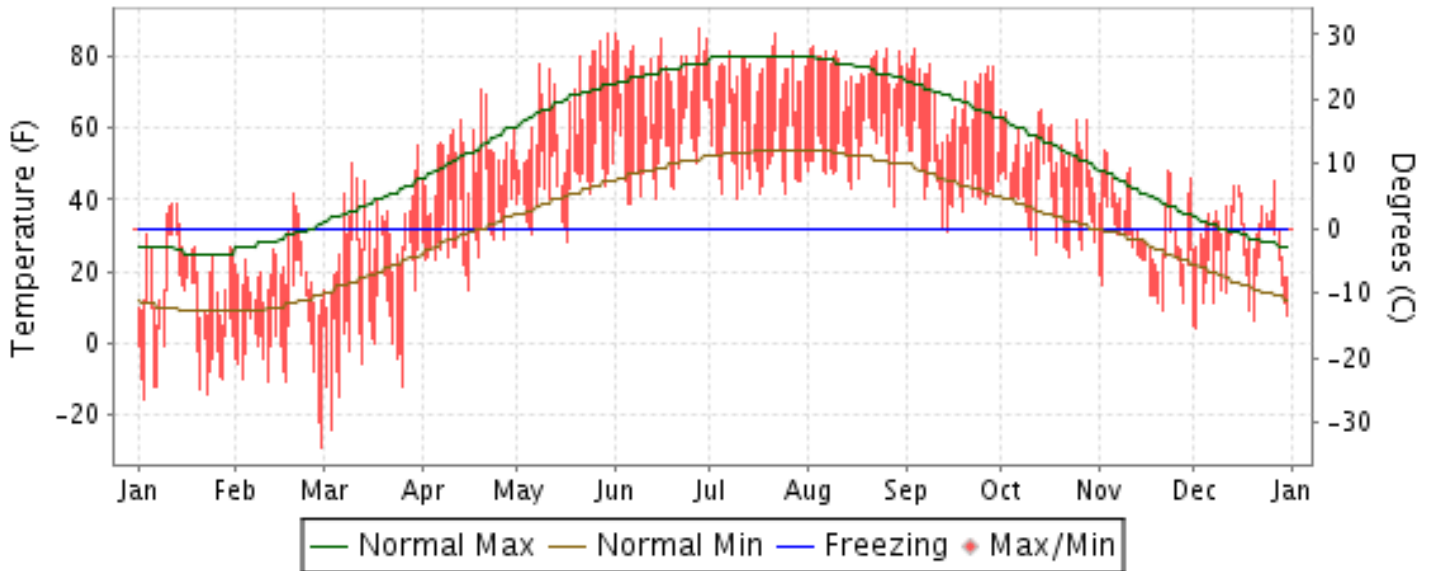


2014 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

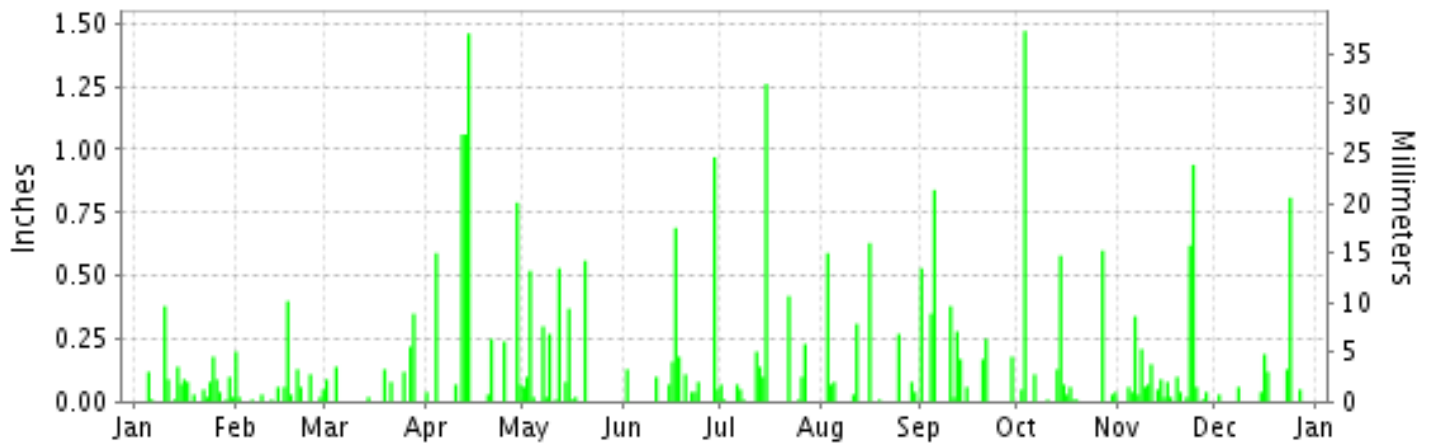
ISSN 0198-2591

HOUGHTON LAKE, MICHIGAN (KHTL)

Daily Max/Min Temperature



Daily Precipitation



Daily Station Pressure



I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, AND IS COMPILED FROM RECORDS ON FILE AT THE NATIONAL CLIMATIC DATA CENTER.

NATIONAL
OCEANIC AND
ATMOSPHERIC ADMINISTRATION

NATIONAL
ENVIRONMENTAL SATELLITE, DATA
AND INFORMATION SERVICE

NATIONAL
CLIMATIC DATA CENTER
ASHEVILLE, NORTH CAROLINA

Thomas R. Karl
DIRECTOR
NATIONAL CLIMATIC DATA CENTER

METEOROLOGICAL DATA FOR 2014

HOUGHTON LAKE (KHTL)

LATITUDE: 44° 21'N LONGITUDE: 84° 40'W ELEVATION (FT): GRND: 1151 BARO: 1151 TIME ZONE: EASTERN (UTC -5) WBAN: 94814

| ELEMENT | | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | YEAR | |
|----------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-----------|---|
| TEMPERATURE °F | MEAN DAILY MAXIMUM | 20.2 | 20.5 | 31.4 | 51.8 | 66.1 | 76.8 | 75.2 | 76.7 | 68.7 | 55.3 | 36.2 | 32.6 | 51.0 | |
| | HIGHEST DAILY MAXIMUM | 39 | 42 | 55 | 71 | 86 | 88 | 86 | 83 | 82 | 65 | 54 | 45 | 88 | |
| | DATE OF OCCURRENCE | 13+ | 19 | 31 | 20 | 30 | 28 | 22 | 03 | 04 | 14+ | 03 | 27 | JUN 28 | |
| | MEAN DAILY MINIMUM | 4.2 | 0.8 | 7.4 | 30.2 | 43.5 | 52.7 | 50.8 | 53.2 | 45.1 | 37.8 | 24.4 | 21.3 | 31.0 | |
| | LOWEST DAILY MINIMUM | -16 | -29 | -24 | 15 | 28 | 39 | 40 | 38 | 31 | 24 | 9 | 4 | -29 | |
| | DATE OF OCCURRENCE | 03 | 28 | 03 | 16 | 17 | 06+ | 10 | 28 | 14 | 23 | 21 | 02 | FEB 28 | |
| | AVERAGE DRY BULB | 12.2 | 10.6 | 19.4 | 41.0 | 54.8 | 64.8 | 63.0 | 65.0 | 56.9 | 46.5 | 30.3 | 27.0 | 41.0 | |
| | MEAN WET BULB | 11.9 | | 18.7 | 35.8 | 49.1 | 59.0 | 58.2 | 60.2 | 53.3 | 43.9 | 28.7 | 25.8 | | |
| | MEAN DEW POINT | 7.5 | | 12.2 | 28.7 | 43.1 | 54.0 | 54.0 | 57.2 | 50.2 | 40.7 | 24.8 | 22.2 | | |
| | NUMBER OF DAYS WITH: | | | | | | | | | | | | | | |
| | MAXIMUM >= 90° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | MAXIMUM <= 32° | 26 | 25 | 16 | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 14 | 14 | 103 | |
| MINIMUM <= 32° | 31 | 28 | 31 | 21 | 4 | 0 | 0 | 0 | 2 | 10 | 25 | 28 | 180 | | |
| MINIMUM <= 0° | 14 | 15 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 | | |
| H/C | HEATING DEGREE DAYS | 1631 | 1513 | 1406 | 716 | 324 | 74 | 104 | 52 | 251 | 565 | 1032 | 1171 | 8839 | |
| | COOLING DEGREE DAYS | 0 | 0 | 0 | 0 | 15 | 73 | 47 | 60 | 15 | 0 | 0 | 0 | 210 | |
| RH | MEAN (PERCENT) | 77 | 74 | 70 | 66 | 68 | 70 | 73 | 79 | 80 | 81 | 80 | 81 | 75 | |
| | HOUR 01 LST | 81 | 81 | 81 | 74 | 83 | 83 | 90 | 93 | 91 | 88 | 82 | 85 | 84 | |
| | HOUR 07 LST | 81 | 81 | 82 | 73 | 76 | 73 | 79 | 91 | 91 | 88 | 84 | 85 | 82 | |
| | HOUR 13 LST | 70 | 62 | 55 | 55 | 53 | 55 | 52 | 58 | 61 | 69 | 74 | 75 | 62 | |
| | HOUR 19 LST | 78 | 74 | 65 | 63 | 61 | 66 | 69 | 80 | 84 | 81 | 80 | 81 | 74 | |
| W/O | NUMBER OF DAYS WITH: | | | | | | | | | | | | | | |
| | HEAVY FOG(VISBY <= 1/4 MI) | 4 | 2 | 2 | 3 | 1 | 1 | 3 | 8 | 8 | 3 | 2 | 5 | 42 | |
| | THUNDERSTORMS | 0 | 0 | 0 | 2 | 3 | 3 | 5 | 2 | 4 | 1 | 0 | 0 | 20 | |
| PR | MEAN STATION PRESS. (IN.) | 28.61 | 28.73 | 28.77 | 28.71 | 28.74 | 28.73 | 28.73 | 28.78 | 28.84 | 28.64 | 28.68 | 28.87 | 28.74 | |
| | MEAN SEA-LEVEL PRESS. (IN.) | 29.92 | 30.04 | 30.07 | 29.97 | 29.99 | 29.96 | 29.97 | 30.02 | 30.09 | 29.88 | 29.96 | 30.16 | 30.00 | |
| WINDS | RESULTANT SPEED (MPH) | 4.6 | 3.3 | 2.1 | 0.2 | 2.1 | 1.5 | 4.0 | 0.7 | 2.0 | 2.9 | 5.7 | 3.1 | 2.5 | |
| | RES. DIR. (TENS OF DEGS.) | 25 | 27 | 29 | 04 | 26 | 18 | 27 | 25 | 26 | 26 | 25 | 27 | 26 | |
| | MEAN SPEED (MPH) | 9.5 | 8.2 | 7.9 | 9.4 | 7.9 | 7.2 | 7.2 | 5.9 | 6.2 | 8.0 | 9.6 | 7.8 | 7.9 | |
| | PREVAIL.DIR.(TENS OF DEGS.) | 25 | 26 | 32 | 09 | 31 | 11 | 23 | 31 | 27 | 26 | 24 | 28 | 28 | |
| | MAXIMUM 2-MINUTE WIND | | | | | | | | | | | | | | |
| | SPEED (MPH) | 26 | 33 | 25 | 32 | 26 | 30 | 23 | 26 | 26 | 25 | 24 | 29 | 33 | |
| | DIR. (TENS OF DEGS.) | 32 | 11 | 32 | 09 | 20 | 28 | 36 | 24 | 30 | 36 | 29 | 24 | 11 | |
| | DATE OF OCCURRENCE | 25 | 20 | 20 | 28 | 09 | 03 | 27 | 03 | 11 | 31 | 12 | 27 | FEB 20 | |
| | MAXIMUM 3-SECOND WIND: | | | | | | | | | | | | | | |
| | SPEED (MPH) | 35 | 47 | 33 | 42 | 40 | 43 | 33 | 36 | 39 | 39 | 38 | 43 | 47 | |
| DIR. (TENS OF DEGS.) | 31 | 20 | 31 | 08 | 20 | 19 | 19 | 28 | 22 | 02 | 29 | 24 | 20 | | |
| DATE OF OCCURRENCE | 06 | 21 | 20 | 28 | 09 | 17 | 01 | 03 | 01 | 31 | 18 | 27 | FEB 21 | | |
| PRECIPITATION | WATER EQUIVALENT: | | | | | | | | | | | | | | |
| | TOTAL (IN.) | 1.61 | 1.19 | 1.15 | 5.66 | 2.87 | 2.62 | 2.67 | 2.11 | 3.23 | 3.20 | 3.05 | 1.43 | 30.79 | |
| | GREATEST 24-HOUR (IN.) | 0.47 | 0.43 | 0.57 | 1.88 | 0.62 | 1.00 | 1.36 | 0.63 | 1.10 | 1.50 | 1.31 | 0.81 | 1.88 | |
| | DATE OF OCCURRENCE | 10-11 | 17-18 | 27-28 | 13-14 | 02-03 | 29-30 | 14-15 | 16 | 04-05 | 02-03 | 23-24 | 24 | APR 13-14 | |
| | NUMBER OF DAYS WITH: | | | | | | | | | | | | | | |
| PRECIPITATION 0.01 | 19 | 14 | 8 | 11 | 14 | 12 | 13 | 10 | 11 | 14 | 21 | 8 | 155 | | |
| PRECIPITATION 0.10 | 5 | 4 | 5 | 7 | 7 | 7 | 7 | 4 | 9 | 5 | 6 | 4 | 70 | | |
| PRECIPITATION 1.00 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 5 | | |
| SNOWFALL | SNOW,ICE PELLETS,HAIL | | | | | | | | | | | | | | |
| | TOTAL (IN.) | 15.4 | 12.0 | 6.1 | 3.5 | T | 0.0 | 0.0 | 0.0 | 0.0 | T | 12.9 | 6.0 | 55.9 | |
| | GREATEST 24-HOUR (IN.) | 2.4 | 4.5 | 2.3 | 3.0 | T | 0.0 | 0.0 | 0.0 | 0.0 | T | 4.0 | 3.6 | 4.5 | |
| | DATE OF OCCURRENCE | 25 | 17 | 25 | 14 | 16 | | | | | 31 | 24 | 17 | FEB 17 | |
| | MAXIMUM SNOW DEPTH (IN.) | 20 | 24 | 26 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 4 | 26 | |
| | DATE OF OCCURRENCE | 31+ | 19+ | 07+ | 01 | | | | | | | 25 | 19+ | MAR 07+ | |
| | NUMBER OF DAYS WITH: | | | | | | | | | | | | | | |
| SNOWFALL >= 1.0 | 9 | 4 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 2 | 23 | | |

NORMALS, MEANS, AND EXTREMES HOUGHTON LAKE (KHTL)

LATITUDE: 44° 21'N **LONGITUDE:** 84° 40'W **ELEVATION (FT):** GRND: 1151 BARO: 1151 **TIME ZONE:** EASTERN (UTC -5) **WBAN: 94814**

| ELEMENT | | POR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | YEAR |
|-----------------------|---|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
| TEMPERATURE °F | NORMAL DAILY MAXIMUM | 30 | 26.2 | 29.4 | 39.7 | 54.1 | 66.3 | 75.5 | 79.7 | 77.1 | 68.9 | 55.7 | 42.3 | 30.5 | 53.8 |
| | MEAN DAILY MAXIMUM | 50 | 25.9 | 28.7 | 39.2 | 53.4 | 66.4 | 75.3 | 79.8 | 77.1 | 68.8 | 55.9 | 42.2 | 30.6 | 53.6 |
| | HIGHEST DAILY MAXIMUM | 50 | 54 | 59 | 85 | 86 | 90 | 103 | 98 | 96 | 92 | 85 | 70 | 64 | 103 |
| | YEAR OF OCCURRENCE | | 1996 | 2000 | 2012 | 2002 | 2006 | 1995 | 1995 | 2001 | 1985 | 2007 | 2008 | 2001 | JUN 1995 |
| | MEAN OF EXTREME MAXS. | 50 | 43.2 | 45.3 | 60.6 | 75.0 | 83.2 | 88.3 | 89.9 | 88.2 | 83.3 | 74.5 | 60.6 | 46.9 | 69.9 |
| | NORMAL DAILY MINIMUM | 30 | 9.9 | 10.6 | 18.5 | 31.0 | 41.5 | 50.2 | 54.5 | 52.8 | 45.5 | 35.9 | 27.4 | 17.3 | 32.9 |
| | MEAN DAILY MINIMUM | 50 | 10.3 | 10.1 | 18.8 | 31.6 | 42.4 | 51.1 | 55.4 | 53.7 | 46.4 | 37.1 | 28.3 | 17.6 | 33.6 |
| | LOWEST DAILY MINIMUM | 50 | -26 | -34 | -24 | 2 | 21 | 29 | 33 | 29 | 21 | 16 | -5 | -21 | -34 |
| | YEAR OF OCCURRENCE | | 1981 | 1979 | 2014 | 2003 | 1966 | 1998 | 1965 | 1982 | 1989 | 1969 | 1995 | 1976 | FEB 1979 |
| | MEAN OF EXTREME MINS. | 50 | -12.4 | -13.5 | -6.0 | 16.1 | 27.9 | 36.2 | 40.9 | 38.5 | 29.8 | 22.4 | 12.5 | -3.6 | 15.7 |
| | NORMAL DRY BULB | 30 | 18.1 | 20.0 | 29.1 | 42.6 | 53.9 | 62.9 | 67.1 | 65.0 | 57.2 | 45.8 | 34.9 | 23.9 | 43.4 |
| | MEAN DRY BULB | 50 | 18.1 | 19.5 | 29.0 | 42.5 | 54.4 | 63.3 | 67.6 | 65.4 | 57.6 | 46.5 | 35.3 | 24.1 | 43.6 |
| | MEAN WET BULB | 31 | 17.8 | 19.1 | 25.6 | 36.2 | 47.2 | 57.1 | 61.2 | 60.2 | 53.3 | 42.5 | 32.2 | 22.9 | 39.6 |
| | MEAN DEW POINT | 31 | 16.0 | 16.4 | 22.9 | 32.3 | 43.8 | 54.4 | 58.9 | 58.5 | 51.4 | 40.5 | 30.6 | 21.3 | 37.3 |
| | NORMAL NO. DAYS WITH: MAXIMUM >= 90 | 30 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | 1.4 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| MAXIMUM <= 32 | 30 | 22.6 | 17.5 | 7.1 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 4.8 | 17.4 | 70.4 |
| MINIMUM <= 32 | 30 | 30.4 | 27.0 | 28.1 | 17.3 | 4.7 | 0.2 | 0.0 | 0.1 | 1.8 | 11.1 | 21.9 | 29.3 | 171.9 | |
| MINIMUM <= 0 | 30 | 7.3 | 6.5 | 2.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 2.4 | 18.7 | |
| H/C | NORMAL HEATING DEG. DAYS | 30 | 1455 | 1260 | 1113 | 676 | 358 | 124 | 47 | 80 | 254 | 597 | 905 | 1274 | 8143 |
| | NORMAL COOLING DEG. DAYS | 30 | 0 | 0 | 0 | 2 | 14 | 59 | 112 | 78 | 20 | 2 | 0 | 0 | 287 |
| RH | NORMAL (PERCENT) | 30 | | | | 64 | | 67 | | | | | | | |
| | HOURLY 01 LST | 30 | | | | 77 | | 85 | | | | | | | |
| | HOURLY 07 LST | 30 | 83 | 84 | 84 | 80 | 78 | 82 | 86 | 91 | 92 | 88 | 87 | 85 | 85 |
| | HOURLY 13 LST | 30 | 73 | 68 | 62 | 53 | 50 | 54 | 55 | 60 | 62 | 64 | 73 | 76 | 63 |
| | HOURLY 19 LST | 30 | 78 | 74 | 67 | 57 | 53 | 57 | 59 | 67 | 73 | 73 | 79 | 81 | 68 |
| S | PERCENT POSSIBLE SUNSHINE | | | | | | | | | | | | | | |
| W/O | MEAN NO. DAYS WITH: HEAVY FOG(VISBY <= 1/4 MI) | 50 | 2.6 | 2.3 | 3.2 | 1.7 | 1.6 | 2.4 | 3.2 | 4.8 | 5.0 | 3.2 | 2.8 | 3.0 | 35.8 |
| | THUNDERSTORMS | 50 | 0.2 | 0.2 | 1.0 | 2.1 | 4.1 | 5.6 | 6.0 | 5.4 | 3.5 | 1.3 | 0.7 | 0.2 | 30.3 |
| CLOUDINESS | MEAN: SUNRISE-SUNSET (OKTAS) | 31 | 6.4 | 5.9 | 5.6 | 5.5 | 5.1 | 4.8 | 4.5 | 4.6 | 5.0 | 5.6 | 6.5 | 6.4 | 5.5 |
| | MIDNIGHT-MIDNIGHT (OKTAS) | 16 | 5.9 | 5.2 | 5.1 | 4.7 | 4.4 | 4.4 | 3.9 | 3.9 | 4.7 | 5.0 | 6.1 | 6.2 | 5.0 |
| | MEAN NO. DAYS WITH: CLEAR | 31 | 2.9 | 4.2 | 5.9 | 6.2 | 7.0 | 7.0 | 7.3 | 7.8 | 6.3 | 5.3 | 2.4 | 2.4 | 64.7 |
| | PARTLY CLOUDY | 31 | 6.3 | 6.7 | 7.2 | 7.2 | 9.3 | 11.2 | 13.2 | 11.1 | 9.3 | 7.7 | 5.0 | 5.9 | 100.1 |
| | CLOUDY | 31 | 21.8 | 17.4 | 17.8 | 16.6 | 14.1 | 11.8 | 10.1 | 12.1 | 14.4 | 18.0 | 22.6 | 22.8 | 199.5 |
| PR | MEAN STATION PRESSURE(IN) | 31 | 28.72 | 28.75 | 28.77 | 28.71 | 28.73 | 28.72 | 28.75 | 28.79 | 28.80 | 28.77 | 28.75 | 28.75 | 28.75 |
| | MEAN SEA-LEVEL PRES. (IN) | 31 | 30.02 | 30.04 | 30.05 | 29.97 | 29.97 | 29.95 | 29.98 | 30.02 | 30.04 | 30.02 | 30.02 | 30.03 | 30.01 |
| WINDS | MEAN SPEED (MPH) | 31 | 8.7 | 8.5 | 8.5 | 9.3 | 8.6 | 7.6 | 6.9 | 6.7 | 7.1 | 8.3 | 9.1 | 8.8 | 8.2 |
| | PREVAIL.DIR.(TENS OF DEGS) | 25 | 28 | 25 | 33 | 32 | 32 | 28 | 24 | 24 | 24 | 28 | 26 | 28 | 28 |
| | MAXIMUM 2-MINUTE: SPEED (MPH) | 18 | 37 | 37 | 37 | 37 | 40 | 51 | 37 | 35 | 33 | 38 | 39 | 39 | 51 |
| | DIR. (TENS OF DEGS) | | 28 | 24 | 22 | 26 | 26 | 19 | 34 | 26 | 27 | 23 | 22 | 23 | 19 |
| | YEAR OF OCCURRENCE | | 2008 | 2001 | 2006 | 2004 | 1998 | 1999 | 2011 | 2006 | 2007 | 2010 | 1998 | 2008 | JUN 1999 |
| | MAXIMUM 3-SECOND SPEED (MPH) | 18 | 51 | 48 | 46 | 52 | 54 | 61 | 49 | 51 | 45 | 56 | 53 | 53 | 61 |
| | DIR. (TENS OF DEGS) | | 27 | 23 | 27 | 22 | 23 | 19 | 35 | 09 | 25 | 21 | 23 | 23 | 19 |
| YEAR OF OCCURRENCE | | 2008 | 1999 | 2009 | 1997 | 1998 | 1999 | 2011 | 2010 | 2010 | 2010 | 2010 | 2007 | 2008 | JUN 1999 |
| PRECIPITATION | NORMAL (IN) | 30 | 1.51 | 1.21 | 1.84 | 2.48 | 2.82 | 3.10 | 2.76 | 3.40 | 3.10 | 2.56 | 2.32 | 1.65 | 28.75 |
| | MAXIMUM MONTHLY (IN) | 50 | 3.56 | 3.36 | 5.67 | 6.11 | 7.40 | 9.20 | 6.14 | 7.18 | 9.49 | 8.08 | 5.10 | 4.60 | 9.49 |
| | YEAR OF OCCURRENCE | | 2013 | 1971 | 1976 | 2011 | 2004 | 2008 | 2010 | 1975 | 1986 | 1991 | 1988 | 2008 | SEP 1986 |
| | MINIMUM MONTHLY (IN) | 50 | 0.20 | 0.15 | 0.19 | .74 | 0.40 | 0.85 | 0.55 | 0.85 | 0.01 | 0.47 | 0.45 | 0.34 | 0.01 |
| | YEAR OF OCCURRENCE | | 2003 | 2003 | 2001 | 2005 | 1966 | 1988 | 1989 | 1969 | 1979 | 1971 | 1986 | 1997 | SEP 1979 |
| | MAXIMUM IN 24 HOURS (IN) | 50 | 1.44 | 1.52 | 2.18 | 1.88 | 2.56 | 3.28 | 3.83 | 3.12 | 2.55 | 3.47 | 1.82 | 1.70 | 3.83 |
| | YEAR OF OCCURRENCE | | 2013 | 1997 | 1976 | 2014 | 2012 | 1996 | 1984 | 1981 | 1985 | 1998 | 1988 | 1971 | JUL 1984 |
| | NORMAL NO. DAYS WITH: PRECIPITATION >= 0.01 | 30 | 13.7 | 10.4 | 11.0 | 11.6 | 11.0 | 10.5 | 9.6 | 9.8 | 11.3 | 12.3 | 13.3 | 14.0 | 138.5 |
| PRECIPITATION >= 1.00 | 30 | 0.0 | 0.1 | 0.1 | 0.3 | 0.4 | 0.7 | 0.6 | 0.8 | 0.7 | 0.4 | 0.2 | 0.1 | 4.4 | |
| SNOWFALL | NORMAL (IN) | 30 | 17.1 | 12.4 | 8.3 | 3.7 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 8.5 | 15.9 | 66.6 |
| | MAXIMUM MONTHLY (IN) | 42 | 38.0 | 24.5 | 28.7 | 17.3 | 2.3 | 0.0 | 0.0 | T | T | 0.1 | 4.4 | 41.9 | 45.8 |
| | YEAR OF OCCURRENCE | | 1982 | 2012 | 1971 | 2007 | 1979 | | 1996 | 1993 | 1967 | 1980 | 1995 | 2008 | DEC 2008 |
| | MAXIMUM IN 24 HOURS (IN) | 42 | 15.4 | 8.5 | 11.7 | 7.6 | 3.2 | 0.0 | T | T | 0.1 | 3.5 | 14.4 | 13.2 | 15.4 |
| | YEAR OF OCCURRENCE' | | 1978 | 1974 | 1970 | 1979 | 1994 | | 1970 | 1993 | 1967 | 1980 | 1981 | 1980 | JAN 1978 |
| | MAXIMUM SNOW DEPTH (IN) | 41 | 24 | 24 | 26 | 8 | 3 | 0 | 0 | 0 | 0 | 1 | 17 | 22 | 26 |
| | YEAR OF OCCURRENCE | | 1979 | 2014 | 2014 | 2011 | 1994 | | | | | 1992 | 1995 | 2008 | MAR 2014 |
| | NORMAL NO. DAYS WITH: SNOWFALL >= 1.0 | 30 | 5.5 | 4.3 | 2.6 | 1.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 2.7 | 5.1 | 21.7 |

PRECIPITATION (inches) 2014 HOUGHTON LAKE (KHTL)

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | ANNUAL |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|--------|
| 1985 | 1.64 | 1.99 | 3.55 | 2.42 | 1.87 | 1.71 | 2.28 | 4.76 | 6.14 | 1.63 | 3.56 | 2.14 | 33.69 |
| 1986 | 1.06 | 1.73 | 2.20 | 1.73 | 3.20 | 5.43 | 4.38 | 1.76 | 9.49 | 1.75 | 0.45 | 0.85 | 34.03 |
| 1987 | 1.06 | 0.61 | 0.78 | 0.97 | 1.56 | 1.04 | 1.62 | 6.69 | 4.35 | 2.21 | 2.63 | 2.45 | 25.97 |
| 1988 | 2.09 | 0.75 | 2.39 | 2.37 | 0.56 | 0.85 | 2.49 | 4.50 | 3.63 | 3.38 | 5.10 | 1.86 | 29.97 |
| 1989 | 0.97 | 0.70 | 2.99 | 0.98 | 3.19 | 2.90 | 0.55 | 2.62 | 1.03 | 1.30 | 2.08 | 0.92 | 20.23 |
| 1990 | 2.43 | 1.09 | 1.47 | 1.77 | 4.15 | 2.57 | 3.82 | 3.28 | 3.00 | 2.94 | 2.90 | 1.55 | 30.97 |
| 1991 | 1.22 | 0.62 | 3.02 | 4.73 | 5.03 | 1.48 | 4.43 | 2.36 | 3.05 | 8.08 | 1.88 | 1.76 | 37.66 |
| 1992 | 1.29 | 1.35 | 1.84 | 3.13 | 0.49 | 1.91 | 2.86 | 3.45 | 3.63 | 2.75 | 4.65 | 1.98 | 29.33 |
| 1993 | 1.73 | 0.89 | 0.62 | 2.96 | 2.50 | 4.84 | 1.28 | 5.67 | 2.10 | 1.78 | 1.58 | 0.74 | 26.69 |
| 1994 | 1.88 | 1.44 | 1.57 | 2.72 | 1.45 | 1.72 | 5.33 | 5.52 | 1.56 | 1.04 | 2.86 | 0.53 | 27.62 |
| 1995 | 2.10 | 0.65 | 1.61 | 2.96 | 1.51 | 3.83 | 2.52 | 5.64 | 1.67 | 2.20 | 4.82 | 1.38 | 30.89 |
| 1996 | 1.71 | 1.46 | 0.96 | 2.99 | 1.59 | 5.84 | 2.76 | 3.56 | 4.41 | 2.84 | .72 | 2.29 | 31.13 |
| 1997 | 2.46 | 2.60 | 1.51 | 1.30 | 3.33 | 1.26 | 2.63 | 3.58 | 3.45 | 1.85 | 1.40 | 0.34 | 25.71 |
| 1998 | 2.12 | 0.89 | 4.40 | 0.86 | 2.31 | 2.24 | 0.65 | 1.30 | 2.10 | 4.00 | 2.53 | 1.04 | 24.44 |
| 1999 | 1.86 | 1.29 | 0.40 | 2.04 | 2.06 | 6.31 | 4.48 | 2.21 | 3.19 | 1.77 | 0.58 | 1.63 | 27.82 |
| 2000 | 1.38 | 1.45 | 1.17 | 1.39 | 5.15 | 2.79 | 4.98 | 2.15 | 2.00 | 0.64 | 2.32 | 0.60 | 26.02 |
| 2001 | 0.59 | 1.60 | 0.19 | 3.22 | 5.31 | 2.53 | 0.81 | 3.15 | 3.61 | 4.61 | 1.91 | 0.59 | 28.12 |
| 2002 | 0.34 | 1.90 | 1.99 | 2.87 | 2.30 | 1.93 | 1.60 | 1.97 | 1.91 | 1.83 | 0.97 | 0.41 | 20.02 |
| 2003 | 0.20 | 0.15 | 0.83 | 3.36 | 2.58 | 1.93 | 2.96 | 2.44 | 1.83 | 2.13 | 4.95 | 1.20 | 24.56 |
| 2004 | 1.26 | 0.63 | 2.36 | 3.26 | 7.40 | 1.51 | 1.49 | 1.79 | 0.77 | 4.42 | 1.58 | 1.78 | 28.25 |
| 2005 | 2.92 | 1.58 | 1.30 | 0.74 | 1.74 | 2.61 | 3.17 | 1.81 | 3.74 | 0.54 | 4.13 | 1.50 | 25.78 |
| 2006 | 2.72 | 1.31 | 2.27 | 2.15 | 3.99 | 3.87 | 1.48 | 3.46 | 3.99 | 3.89 | 2.05 | 2.61 | 33.79 |
| 2007 | 0.90 | 0.67 | 2.78 | 4.23 | 1.95 | 3.53 | 2.15 | 2.82 | 1.17 | 1.79 | 1.17 | 2.39 | 25.55 |
| 2008 | 2.23 | 2.03 | 1.66 | 2.57 | 1.10 | 9.20 | 2.31 | 3.18 | 2.81 | 1.54 | 1.80 | 4.60 | 35.03 |
| 2009 | 1.12 | 2.46 | 1.81 | 4.25 | 2.64 | 3.02 | 2.54 | 3.35 | 2.68 | 4.11 | 1.20 | 1.91 | 31.09 |
| 2010 | 0.47 | 0.38 | 0.65 | 2.05 | 2.32 | 4.86 | 6.14 | 1.79 | 2.87 | 1.38 | 1.41 | 1.12 | 25.44 |
| 2011 | 1.52 | 1.52 | 2.04 | 6.11 | 2.49 | 2.73 | 2.80 | 2.04 | 2.72 | 3.26 | 2.59 | 1.10 | 30.92 |
| 2012 | 2.49 | 2.13 | 2.97 | 1.97 | 4.58 | 3.60 | 4.81 | 2.26 | 1.42 | 3.60 | 0.68 | 2.91 | 33.42 |
| 2013 | 3.56 | 1.70 | 1.26 | 5.78 | 3.64 | 1.29 | 1.13 | 1.73 | 1.81 | 3.43 | 3.16 | 2.20 | 30.69 |
| 2014 | 1.61 | 1.19 | 1.15 | 5.66 | 2.87 | 2.62 | 2.67 | 2.11 | 3.23 | 3.20 | 3.05 | 1.43 | 30.79 |
| POR= 50 YRS | 1.60 | 1.25 | 1.88 | 2.64 | 2.73 | 3.17 | 2.65 | 3.14 | 2.99 | 2.48 | 2.28 | 1.83 | 28.64 |

WBAN : 94814

AVERAGE TEMPERATURE (°F) 2014 HOUGHTON LAKE (KHTL)

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | ANNUAL |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|--------|
| 1985 | 14.9 | 17.9 | 30.3 | 46.5 | 57.0 | 59.5 | 66.1 | 63.9 | 59.8 | 47.5 | 34.5 | 18.0 | 43.0 |
| 1986 | 17.3 | 18.4 | 30.9 | 47.3 | 56.9 | 60.5 | 69.7 | 62.8 | 58.1 | 46.8 | 32.3 | 26.8 | 44.0 |
| 1987 | 21.6 | 23.4 | 33.6 | 47.3 | 58.1 | 67.1 | 71.4 | 65.6 | 59.5 | 43.9 | 37.7 | 28.7 | 46.5 |
| 1988 | 17.3 | 16.3 | 28.0 | 43.7 | 58.6 | 64.8 | 71.4 | 68.8 | 57.9 | 42.4 | 36.6 | 23.7 | 44.1 |
| 1989 | 24.9 | 15.5 | 25.0 | 41.1 | 54.5 | 62.2 | 69.5 | 64.8 | 56.2 | 47.9 | 30.7 | 12.9 | 42.1 |
| 1990 | 26.2 | 21.3 | 32.1 | 44.9 | 51.9 | 63.4 | 66.8 | 65.0 | 57.9 | 45.3 | 38.9 | 25.8 | 45.0 |
| 1991 | 16.1 | 24.5 | 33.1 | 46.9 | 61.1 | 67.7 | 68.6 | 68.0 | 55.8 | 47.9 | 33.4 | 25.4 | 45.7 |
| 1992 | 22.8 | 24.1 | 28.6 | 39.4 | 54.3 | 60.4 | 63.0 | 62.0 | 56.8 | 44.8 | 33.6 | 26.1 | 43.0 |
| 1993 | 21.0 | 16.2 | 28.7 | 40.2 | 54.6 | 61.9 | 70.2 | 68.8 | 52.9 | 44.6 | 34.7 | 25.9 | 43.3 |
| 1994 | 9.3 | 12.9 | 30.1 | 43.2 | 55.0 | 65.3 | 68.1 | 64.4 | 61.9 | 50.9 | 39.3 | 30.7 | 44.3 |
| 1995 | 23.1 | 18.2 | 34.3 | 40.1 | 54.5 | 68.9 | 70.7 | 72.3 | 56.9 | 50.1 | 29.1 | 19.5 | 44.8 |
| 1996 | 15.9 | 19.8 | 25.7 | 36.8 | 50.8 | 64.0 | 64.0 | 66.3 | 58.6 | 47.0 | 30.6 | 24.8 | 42.0 |
| 1997 | 17.0 | 20.4 | 27.2 | 40.3 | 46.6 | 64.8 | 65.8 | 61.6 | 57.0 | 46.0 | 32.3 | 28.2 | 42.3 |
| 1998 | 24.1 | 30.2 | 31.2 | 45.2 | 60.3 | 63.0 | 66.7 | 66.7 | 60.4 | 48.8 | 37.9 | 28.7 | 46.9 |
| 1999 | 17.1 | 26.1 | 29.1 | 44.7 | 56.1 | 64.9 | 69.8 | 63.1 | 56.8 | 44.9 | 39.7 | 26.2 | 44.9 |
| 2000 | 17.8 | 25.0 | 38.1 | 41.4 | 55.9 | 62.7 | 64.7 | 64.7 | 57.6 | 49.6 | 35.8 | 16.0 | 44.1 |
| 2001 | 22.8 | 20.1 | 27.7 | 46.1 | 56.8 | 63.4 | 67.0 | 67.0 | 55.5 | 46.5 | 42.2 | 31.4 | 45.5 |
| 2002 | 26.5 | 25.7 | 25.7 | 41.6 | 49.6 | 64.5 | 71.3 | 65.1 | 61.3 | 41.4 | 32.3 | 24.8 | 44.2 |
| 2003 | 15.5 | 13.6 | 28.2 | 40.1 | 52.3 | 60.5 | 65.6 | 66.8 | 57.2 | 45.2 | 37.0 | 27.7 | 42.5 |
| 2004 | 12.1 | 19.3 | 32.1 | 44.1 | 52.8 | 62.2 | 64.9 | 61.9 | 61.3 | 47.7 | 36.4 | 23.1 | 43.2 |
| 2005 | 16.1 | 23.5 | 24.4 | 45.4 | 51.1 | 69.0 | 68.3 | 66.2 | 61.3 | 48.9 | 37.3 | 23.2 | 44.6 |
| 2006 | 28.0 | 19.9 | 31.3 | 46.2 | 56.1 | 62.8 | 70.1 | 64.6 | 55.4 | 43.0 | 38.1 | 31.3 | 45.6 |
| 2007 | 22.4 | 14.0 | 32.9 | 40.1 | 57.5 | 64.6 | 66.0 | 66.5 | 60.2 | 52.6 | 32.7 | 23.2 | 44.4 |
| 2008 | 22.3 | 16.9 | 25.1 | 46.2 | 50.6 | 64.6 | 67.6 | 64.7 | 58.3 | 44.7 | 33.9 | 20.2 | 42.9 |
| 2009 | 10.4 | 20.6 | 30.5 | 42.8 | 53.1 | 60.9 | 62.1 | 63.3 | 57.5 | 43.7 | 39.7 | 22.5 | 42.3 |
| 2010 | 21.2 | 22.2 | 37.2 | 48.2 | 57.7 | 64.0 | 70.3 | 70.0 | 56.2 | 47.7 | 37.3 | 21.9 | 46.2 |
| 2011 | 14.6 | 19.8 | 25.6 | 41.4 | 56.6 | 63.4 | 72.5 | 67.2 | 57.9 | 48.1 | 39.7 | 30.1 | 44.7 |
| 2012 | 24.0 | 26.9 | 43.8 | 44.2 | 58.8 | 66.3 | 72.5 | 66.4 | 57.3 | 47.3 | 35.6 | 29.5 | 47.7 |
| 2013 | 22.6 | 20.0 | 27.5 | 39.2 | 57.5 | 63.9 | 68.0 | 64.9 | 57.2 | 47.7 | 33.2 | 18.3 | 43.3 |
| 2014 | 12.2 | 10.6 | 19.4 | 41.0 | 54.8 | 64.8 | 63.0 | 65.0 | 56.9 | 46.5 | 30.3 | 27.0 | 41.0 |
| POR= 50 YRS | 18.1 | 19.5 | 29.0 | 42.5 | 54.4 | 63.3 | 67.6 | 65.4 | 57.6 | 46.5 | 35.3 | 24.1 | 43.6 |

HEATING DEGREE DAYS (base 65°F) 2014 HOUGHTON LAKE (KHTL)

| YEAR | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | TOTAL |
|---------|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|-------|
| 1985-86 | 46 | 88 | 209 | 535 | 908 | 1451 | 1474 | 1297 | 1048 | 532 | 274 | 148 | 8010 |
| 1986-87 | 23 | 109 | 212 | 557 | 975 | 1179 | 1335 | 1159 | 963 | 523 | 271 | 57 | 7363 |
| 1987-88 | 41 | 60 | 169 | 649 | 813 | 1117 | 1473 | 1406 | 1140 | 636 | 225 | 106 | 7835 |
| 1988-89 | 7 | 75 | 218 | 692 | 847 | 1276 | 1236 | 1381 | 1234 | 711 | 333 | 126 | 8136 |
| 1989-90 | 19 | 79 | 277 | 520 | 1025 | 1607 | 1196 | 1217 | 1009 | 627 | 398 | 97 | 8071 |
| 1990-91 | 32 | 51 | 248 | 604 | 773 | 1208 | 1509 | 1127 | 985 | 540 | 219 | 33 | 7329 |
| 1991-92 | 37 | 30 | 295 | 525 | 939 | 1219 | 1298 | 1178 | 1123 | 763 | 341 | 161 | 7909 |
| 1992-93 | 83 | 132 | 257 | 619 | 934 | 1196 | 1359 | 1358 | 1119 | 737 | 331 | 123 | 8248 |
| 1993-94 | 4 | 37 | 358 | 627 | 904 | 1205 | 1722 | 1457 | 1073 | 649 | 320 | 79 | 8435 |
| 1994-95 | 26 | 75 | 132 | 431 | 763 | 1059 | 1293 | 1307 | 947 | 741 | 320 | 35 | 7129 |
| 1995-96 | 22 | 2 | 260 | 461 | 1072 | 1403 | 1515 | 1307 | 1214 | 840 | 440 | 91 | 8627 |
| 1996-97 | 65 | 37 | 212 | 552 | 1021 | 1240 | 1481 | 1246 | 1162 | 737 | 561 | 64 | 8378 |
| 1997-98 | 79 | 134 | 239 | 582 | 972 | 1135 | 1260 | 968 | 1041 | 592 | 175 | 146 | 7323 |
| 1998-99 | 34 | 48 | 176 | 499 | 805 | 1118 | 1477 | 1083 | 1105 | 602 | 282 | 100 | 7329 |
| 1999-00 | 17 | 91 | 249 | 617 | 754 | 1193 | 1456 | 1154 | 826 | 701 | 299 | 114 | 7471 |
| 2000-01 | 83 | 69 | 256 | 473 | 867 | 1512 | 1303 | 1250 | 1149 | 558 | 262 | 127 | 7909 |
| 2001-02 | 62 | 62 | 296 | 567 | 677 | 1032 | 1188 | 1094 | 1213 | 703 | 471 | 112 | 7477 |
| 2002-03 | 22 | 65 | 157 | 730 | 973 | 1238 | 1526 | 1433 | 1132 | 741 | 387 | 155 | 8559 |
| 2003-04 | 36 | 42 | 235 | 606 | 834 | 1150 | 1633 | 1320 | 1013 | 620 | 378 | 110 | 7977 |
| 2004-05 | 58 | 136 | 155 | 529 | 851 | 1293 | 1510 | 1155 | 1253 | 582 | 431 | 47 | 8000 |
| 2005-06 | 33 | 41 | 148 | 517 | 823 | 1290 | 1140 | 1258 | 1038 | 557 | 299 | 106 | 7250 |
| 2006-07 | 16 | 76 | 289 | 674 | 798 | 1038 | 1315 | 1423 | 986 | 737 | 258 | 85 | 7695 |
| 2007-08 | 60 | 62 | 177 | 397 | 959 | 1290 | 1316 | 1387 | 1233 | 560 | 437 | 71 | 7949 |
| 2008-09 | 19 | 68 | 201 | 623 | 927 | 1384 | 1684 | 1238 | 1061 | 656 | 364 | 176 | 8401 |
| 2009-10 | 115 | 108 | 219 | 656 | 754 | 1311 | 1350 | 1192 | 857 | 501 | 272 | 79 | 7414 |
| 2010-11 | 10 | 29 | 273 | 532 | 825 | 1327 | 1555 | 1256 | 1212 | 702 | 287 | 89 | 8097 |
| 2011-12 | 7 | 29 | 249 | 514 | 751 | 1077 | 1266 | 1100 | 665 | 617 | 221 | 83 | 6579 |
| 2012-13 | 3 | 50 | 250 | 538 | 874 | 1094 | 1310 | 1255 | 1155 | 770 | 265 | 102 | 7666 |
| 2013-14 | 45 | 80 | 262 | 530 | 948 | 1439 | 1631 | 1513 | 1406 | 716 | 324 | 74 | 8968 |
| 2014- | 104 | 52 | 251 | 565 | 1032 | 1171 | | | | | | | |

WBAN : 94814

COOLING DEGREE DAYS (base 65°F) 2014 HOUGHTON LAKE (KHTL)

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | TOTAL |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| 1985 | 0 | 0 | 0 | 22 | 8 | 11 | 86 | 61 | 60 | 0 | 0 | 0 | 248 |
| 1986 | 0 | 0 | 0 | 8 | 29 | 22 | 175 | 46 | 15 | 0 | 0 | 0 | 295 |
| 1987 | 0 | 0 | 0 | 1 | 64 | 125 | 250 | 86 | 12 | 0 | 0 | 0 | 538 |
| 1988 | 0 | 0 | 0 | 0 | 35 | 108 | 213 | 199 | 11 | 0 | 0 | 0 | 566 |
| 1989 | 0 | 0 | 0 | 0 | 10 | 49 | 164 | 83 | 19 | 0 | 0 | 0 | 325 |
| 1990 | 0 | 0 | 0 | 29 | 0 | 55 | 94 | 56 | 41 | 0 | 0 | 0 | 275 |
| 1991 | 0 | 0 | 0 | 2 | 104 | 120 | 157 | 130 | 26 | 0 | 0 | 0 | 539 |
| 1992 | 0 | 0 | 0 | 0 | 15 | 31 | 28 | 46 | 19 | 0 | 0 | 0 | 139 |
| 1993 | 0 | 0 | 0 | 0 | 16 | 34 | 175 | 161 | 4 | 0 | 0 | 0 | 390 |
| 1994 | 0 | 0 | 0 | 0 | 19 | 97 | 130 | 64 | 45 | 0 | 0 | 0 | 355 |
| 1995 | 0 | 0 | 0 | 0 | 4 | 160 | 202 | 233 | 24 | 5 | 0 | 0 | 628 |
| 1996 | 0 | 0 | 0 | 0 | 10 | 67 | 41 | 85 | 25 | 0 | 0 | 0 | 228 |
| 1997 | 0 | 0 | 0 | 0 | 0 | 63 | 112 | 39 | 7 | 0 | 0 | 0 | 221 |
| 1998 | 0 | 0 | 0 | 0 | 34 | 93 | 98 | 110 | 45 | 0 | 0 | 0 | 380 |
| 1999 | 0 | 0 | 0 | 0 | 15 | 107 | 174 | 41 | 10 | 0 | 0 | 0 | 347 |
| 2000 | 0 | 0 | 0 | 0 | 24 | 51 | 79 | 65 | 42 | 1 | 0 | 0 | 262 |
| 2001 | 0 | 0 | 0 | 0 | 12 | 87 | 132 | 130 | 19 | 0 | 0 | 0 | 380 |
| 2002 | 0 | 0 | 0 | 10 | 4 | 105 | 223 | 73 | 55 | 6 | 0 | 0 | 476 |
| 2003 | 0 | 0 | 0 | 0 | 0 | 28 | 60 | 106 | 10 | 0 | 0 | 0 | 204 |
| 2004 | 0 | 0 | 0 | 0 | 8 | 35 | 60 | 48 | 50 | 0 | 0 | 0 | 201 |
| 2005 | 0 | 0 | 0 | 0 | 5 | 171 | 143 | 83 | 46 | 24 | 0 | 0 | 472 |
| 2006 | 0 | 0 | 0 | 0 | 30 | 47 | 179 | 68 | 6 | 0 | 0 | 0 | 330 |
| 2007 | 0 | 0 | 0 | 0 | 33 | 76 | 101 | 115 | 39 | 20 | 0 | 0 | 384 |
| 2008 | 0 | 0 | 0 | 0 | 0 | 65 | 104 | 66 | 9 | 0 | 0 | 0 | 244 |
| 2009 | 0 | 0 | 0 | 0 | 2 | 59 | 30 | 64 | 4 | 0 | 0 | 0 | 159 |
| 2010 | 0 | 0 | 0 | 2 | 53 | 58 | 182 | 188 | 16 | 0 | 0 | 0 | 499 |
| 2011 | 0 | 0 | 0 | 0 | 34 | 49 | 246 | 106 | 40 | 0 | 0 | 0 | 475 |
| 2012 | 0 | 0 | 12 | 0 | 37 | 129 | 244 | 100 | 25 | 0 | 0 | 0 | 547 |
| 2013 | 0 | 0 | 0 | 0 | 40 | 79 | 146 | 81 | 35 | 0 | 0 | 0 | 381 |
| 2014 | 0 | 0 | 0 | 0 | 15 | 73 | 47 | 60 | 15 | 0 | 0 | 0 | 210 |

SNOWFALL (inches) 2014 HOUGHTON LAKE (KHTL)

| YEAR | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | TOTAL |
|----------------|-----|-----|-----|-----|------|------|------|------|------|------|-----|-----|-------|
| 1985-86 | 0.0 | 0.0 | 0.0 | 0.0 | 12.6 | 23.1 | 12.7 | 14.0 | 8.9 | 0.3 | 0.0 | 0.0 | 71.6 |
| 1986-87 | 0.0 | 0.0 | 0.0 | T | 3.4 | 10.3 | 14.1 | 6.4 | 2.3 | 2.0 | 0.0 | 0.0 | 38.5 |
| 1987-88 | 0.0 | 0.0 | 0.0 | 2.4 | 8.7 | 18.6 | 13.4 | 12.9 | 10.3 | 1.4 | 0.0 | 0.0 | 67.7 |
| 1988-89 | 0.0 | 0.0 | 0.0 | | 7.8 | 12.3 | 9.3 | 13.5 | 18.7 | 3.1 | T | 0.0 | |
| 1989-90 | 0.0 | 0.0 | T | 0.6 | 12.2 | 15.0 | 21.7 | 11.0 | 2.4 | 2.1 | 0.9 | 0.0 | 65.9 |
| 1990-91 | 0.0 | 0.0 | 0.0 | T | 9.1 | 15.3 | 22.6 | 8.5 | 4.5 | 1.8 | 0.0 | 0.0 | 61.8 |
| 1991-92 | 0.0 | 0.0 | T | T | 4.9 | 17.5 | 15.0 | 15.8 | 9.5 | 3.6 | 0.0 | 0.0 | 66.3 |
| 1992-93 | 0.0 | 0.0 | 0.0 | 3.2 | 11.8 | 14.3 | 14.7 | 13.1 | 8.1 | 2.9 | 0.0 | 0.0 | 68.1 |
| 1993-94 | 0.0 | T | 0.0 | 0.1 | 2.3 | 9.0 | 26.2 | 12.7 | 9.0 | 3.9 | 0.1 | 0.0 | 63.3 |
| 1994-95 | 0.0 | 0.0 | 0.0 | 0.0 | 6.6 | 7.6 | 12.2 | 10.2 | 7.4 | 1.9 | 0.0 | 0.0 | 45.9 |
| 1995-96 | 0.0 | 0.0 | T | T | 41.9 | 16.4 | 26.0 | 8.7 | 13.4 | 10.6 | | 0.0 | |
| 1996-97 | T | 0.0 | T | T | 8.9 | | | | | | | | |
| 1997-98 | | | | | | | | | | | | | |
| 1998-99 | | | | | | | | | | | | | |
| 1999-00 | | | | | 1.6 | 3.7 | 16.1 | 10.4 | T | | | | |
| 2000-01 | | | | | | | | | | | | | |
| 2001-02 | | | | | | | | | | | | | |
| 2002-03 | | | | | | | | | | | | | |
| 2003-04 | | | | | | | | | | | | | |
| 2004-05 | | | | | | | | | | | | | |
| 2005-06 | | 0.0 | 0.0 | 0.0 | 19.5 | 15.6 | 16.8 | 12.1 | 4.9 | 1.6 | T | 0.0 | |
| 2006-07 | 0.0 | 0.0 | 0.0 | 0.4 | 3.7 | 11.9 | 13.9 | 12.5 | 14.3 | 17.3 | 0.0 | 0.0 | 74.0 |
| 2007-08 | 0.0 | 0.0 | 0.0 | 0.0 | 6.0 | 25.3 | 15.2 | 22.9 | 6.4 | T | 0.0 | 0.0 | 75.8 |
| 2008-09 | 0.0 | 0.0 | 0.0 | T | 18.3 | 45.8 | 16.4 | 13.2 | 5.2 | 0.2 | 0.0 | 0.0 | 99.1 |
| 2009-10 | 0.0 | 0.0 | 0.0 | T | 0.7 | 20.4 | 4.4 | 5.2 | T | T | T | 0.0 | 30.7 |
| 2010-11 | 0.0 | 0.0 | 0.0 | T | 1.4 | 17.5 | 22.6 | 18.5 | 20.0 | 8.1 | 0.0 | 0.0 | 88.1 |
| 2011-12 | 0.0 | 0.0 | 0.0 | 0.0 | T | 3.9 | 30.6 | 24.5 | 14.3 | T | 0.0 | 0.0 | 73.3 |
| 2012-13 | 0.0 | 0.0 | 0.0 | T | 7.2 | 13.3 | 12.6 | 18.2 | 5.8 | 3.0 | 0.9 | 0.0 | 61.0 |
| 2013-14 | 0.0 | 0.0 | 0.0 | T | 3.8 | 21.1 | 15.4 | 12.0 | 6.1 | 3.5 | T | 0.0 | 61.9 |
| 2014- | 0.0 | 0.0 | 0.0 | T | 12.9 | 6.0 | | | | | | | |
| POR= 51 YRS | T | T | T | 0.5 | 8.1 | 14.1 | 16.0 | 11.3 | 9.0 | 3.4 | 0.2 | 0.0 | 62.6 |

WBAN : 94814

REFERENCE NOTES :

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|---|---|
| <p>PAGE 1: THE TEMPERATURE GRAPH SHOWS NORMAL MAXIMUM AND NORMAL MINIMUM DAILY TEMPERATURES (SOLID CURVES) AND THE ACTUAL DAILY HIGH AND LOW TEMPERATURES (VERTICAL BARS).</p> <p>PAGE 2 AND 3: H/C INDICATES HEATING AND COOLING DEGREE DAYS. RH INDICATES RELATIVE HUMIDITY W/O INDICATES WEATHER AND OBSTRUCTIONS S INDICATES SUNSHINE. PR INDICATES PRESSURE. CLOUDINESS ON PAGE 3 IS THE SUM OF THE CEILOMETER AND SATELLITE DATA NOT TO EXCEED EIGHT EIGHTHS(OKTAS).</p> <p>GENERAL: T INDICATES TRACE PRECIPITATION, AN AMOUNT GREATER THAN ZERO BUT LESS THAN THE LOWEST REPORTABLE VALUE. + INDICATES THE VALUE ALSO OCCURS ON EARLIER DATES. BLANK ENTRIES DENOTE MISSING OR UNREPORTED DATA. ASOS INDICATES AUTOMATED SURFACE OBSERVING SYSTEM. PM INDICATES THE LAST DAY OF THE PREVIOUS MONTH. POR (PERIOD OF RECORD) BEGINS WITH THE JANUARY DATA MONTH AND IS THE NUMBER OF YEARS USED TO COMPUTE THE MEAN. INDIVIDUAL MONTHS WITHIN THE POR MAY BE MISSING. WHEN THE POR FOR A NORMAL IS LESS THAN 30 YEARS, THE NORMAL IS PROVISIONAL AND IS BASED ON THE NUMBER OF YEARS INDICATED. 0.* OR * INDICATES THE VALUE OR MEAN-DAYS-WITH IS BETWEEN 0.00 AND 0.05. CLOUDINESS FOR ASOS STATIONS DIFFERS FROM THE NON-ASOS OBSERVATION TAKEN BY A HUMAN OBSERVER. ASOS STATION CLOUDINESS IS BASED ON TIME-AVERAGED CEILOMETER DATA FOR CLOUDS AT OR BELOW 12,000 FEET CLEAR INDICATES 0 - 2 OKTAS, PARTLY CLOUDY INDICATES 3 - 6 OKTAS, AND CLOUDY INDICATES 7 OR 8 OKTAS.</p> <p>GENERAL CONTINUED: WIND DIRECTION IS RECORDED IN TENS OF DEGREES (2 DIGITS) CLOCKWISE FROM TRUE NORTH. "00" INDICATES CALM. "36" INDICATES TRUE NORTH. RESULTANT WIND IS THE VECTOR AVERAGE OF THE SPEED AND DIRECTION. AVERAGE TEMPERATURE IS THE SUM OF THE MEAN DAILY MAXIMUM AND MINIMUM TEMPERATURE DIVIDED BY 2. SNOWFALL DATA COMPRISE ALL FORMS OF FROZEN</p> | <p>PRECIPITATION, INCLUDING HAIL. A HEATING (COOLING) DEGREE DAY IS THE DIFFERENCE BETWEEN THE AVERAGE DAILY TEMPERATURE AND 65 F. DRY BULB IS THE TEMPERATURE OF THE AMBIENT AIR. DEW POINT IS THE TEMPERATURE TO WHICH THE AIR MUST BE COOLED TO ACHIEVE 100 PERCENT RELATIVE HUMIDITY. WET BULB IS THE TEMPERATURE THE AIR WOULD HAVE IF THE MOISTURE CONTENT WAS INCREASED TO 100 PERCENT RELATIVE HUMIDITY. ON JULY 1, 1996, THE NATIONAL WEATHER SERVICE BEGAN USING THE "METAR" OBSERVATION CODE THAT WAS ALREADY EMPLOYED BY MOST OTHER NATIONS OF THE WORLD. THE MOST NOTICEABLE DIFFERENCE IN THIS ANNUAL PUBLICATION WILL BE THE CHANGE IN UNITS FROM TENTHS TO EIGHTHS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER. STATION HISTORY STOPPED WITH THE 2009 ANNUAL. IF YOU NEED STATION HISTORY INFORMATION GO TO "Historical Observing Metadata Repository", URL IS: http://www.ncdc.noaa.gov/homr/ SNOWFALL STOPPED MONTH & YEAR INDICATED ABOVE. NO FURTHER YEARS INCLUDED UNLESS RESTARTED.</p> <p>NOTE: The "Period of Record:(POR)" for all "averages" is based on "Summary of the Day First Order Station" and "Cooperative Summary of the Day" archives.</p> |
|---|---|

2014

HOUGHTON LAKE

MICHIGAN (KHTL)

Houghton Lake is located in north-central lower Michigan. The present station is on the northeast shore of Houghton Lake, the largest inland lake in Michigan, with a circumference of about 32 miles. The Muskegon River source is Higgins Lake, 8 miles to the north. It flows through Houghton Lake, then southwestward to Lake Michigan. The station lies within an elongated bowl shaped 1,000-foot plateau, which extends roughly 50 miles north, 75 miles southwest, and about 20 miles southeast of Houghton Lake. In the immediate area, the land is level to rolling, but there are hills and ridges from 100 to 300 feet higher in elevation surrounding the station. Soils are generally sand, or sandy loam supporting little agricultural production, but the area is rich in natural resources of forests, lakes, and streams.

The interior location diminishes the influence of the larger Great Lakes, which lie 70 to 80 miles east and west of Houghton Lake. Hence, the daily temperature range is larger, especially in summer, and temperature extremes are greater than are found nearer the shores of either Lake Michigan or Lake Huron. Temperatures reach the 100 degree mark about one summer out of ten, and at the other extreme, fall below zero an average of twenty-two times during the winter season.

Precipitation is normally a little heavier during the summer season. About 60 percent of the annual total falls in the six-month period from April through September. The heaviest precipitation occurs with summertime thunderstorms.

Snowfall averages above 80 inches per year at Houghton Lake, with considerable variation from year to year. Much heavier snows, averaging over 100 inches a season, fall within a 30- to 60-mile radius to the north and west of Houghton Lake. Seasonal totals have ranged from 24 inches to over 124 inches. Measurable amounts of snow have occurred in nine of the twelve months, and the average number of months with measurable snowfall is six.

Cloudiness is greatest in the late fall and early winter, while sunshine percentage is highest in the spring and summer. Cloudiness is increased in the late fall due to the moisture and warmth picked up by the westerly and northwesterly winds while crossing Lake Michigan.

The growing season is normally quite short, averaging about 90 days between spring and fall freezes.

Station History

HOUGHTON LAKE, MI

| NAME | Begin Date | End Date | Latitude | Longitude | Elevation Feet | Relocation | Platform |
|-----------------------------------|------------|------------|----------|-----------|----------------|------------|-------------------|
| HOUGHTON LAKE ROSCOMMON COUNTY AP | 1964-04-20 | 1964-06-01 | 44° 22' | -84° 40' | 1150 | | AIRWAYS |
| HOUGHTON LAKE ROSCOMMON COUNTY AP | 1982-01-01 | 1996-04-01 | 44° 22' | -84° 40' | 1150 | | COOP, WXSVC |
| HOUGHTON LAKE | 1938-07-01 | 1941-04-30 | 44° 18' | -84° 46' | | | AIRWAYS |
| HOUGHTON LAKE ROSCOMMON COUNTY AP | 2006-11-01 | Present | 44° 21' | -84° 40' | 1151 | | ASOS, COOP, WXSVC |
| HOUGHTON LAKE ROSCOMMON COUNTY AP | 1996-04-01 | 2006-11-01 | 44° 21' | -84° 40' | 1151 | 900 FT E | ASOS, COOP, WXSVC |
| ROSCOMMON | 1964-04-16 | 1964-04-20 | 44° 22' | -84° 40' | 1150 | | AIRWAYS |
| ROSCOMMON | 1964-04-01 | 1964-04-16 | 44° 22' | -84° 40' | | | AIRWAYS |
| HOUGHTON LAKE | 1936-09-01 | 1937-12-31 | 44° 18' | -84° 46' | | | AIRWAYS |
| HOUGHTON LAKE ROSCOMMON COUNTY AP | 1964-06-01 | 1965-01-01 | 44° 22' | -84° 40' | 1155 | | AIRWAYS, COOP |
| HOUGHTON LAKE ROSCOMMON COUNTY AP | 1965-01-01 | 1973-01-01 | 44° 22' | -84° 40' | 1158 | | AIRWAYS, COOP |
| HOUGHTON LAKE ROSCOMMON COUNTY AP | 1973-01-01 | 1982-01-01 | 44° 22' | -84° 40' | 1158 | | COOP, WXSVC |

Element History

| Element | Begin Date | End Date | Frequency | Time Of Observation | Equipment * | Equipment * Modifications | Equipment Exposure |
|---------|------------|------------|-----------|---------------------|-------------|---------------------------|--------------------|
| PRECIP | 1964-04-01 | 1982-01-01 | DAILY | 2400 | | | |
| TEMP | 1989-01-01 | 1995-07-01 | DAILY | 2400 | MXMN | | |
| PRECIP | 1995-07-01 | 1996-04-01 | HOURLY | 2400 | UNIV | RCRD | |
| PRECIP | 1982-01-01 | 1989-01-01 | HOURLY | 2400 | | | |
| TEMP | 1996-04-01 | 2006-11-01 | DAILY | 2400 | ATEMP | | |
| TEMP | 1964-04-01 | 1982-01-01 | DAILY | 2400 | | | |
| PRECIP | 1996-04-01 | 2006-11-01 | DAILY | 2400 | PCPNX | | |
| WIND | 1996-04-01 | 2006-11-01 | HOURLY | UNKN | ANEMCUP | | |
| WIND | 2007-03-29 | 2010-09-30 | HOURLY | UNKN | ANEMSONIC | | |
| TEMP | 2010-09-30 | Present | DAILY | 2400 | ATEMP | | |
| PRECIP | 2010-09-30 | Present | HOURLY | 2400 | AWPAG | SHLD;RCRD;HTD | |
| PRECIP | 1995-07-01 | 1996-04-01 | DAILY | 2400 | SRG | | |
| PRECIP | 1996-04-01 | 2006-11-01 | HOURLY | 2400 | AHTB | RCRD;HTD | |
| PRECIP | 2006-11-01 | 2007-03-29 | DAILY | 2400 | PCPNX | | |
| PRECIP | 2007-03-29 | 2010-09-30 | DAILY | 2400 | PCPNX | | |
| PRECIP | 1989-01-01 | 1995-07-01 | HOURLY | 2400 | | | |
| TEMP | 1995-07-01 | 1996-04-01 | DAILY | 2400 | MXMN | | |
| TEMP | 2006-11-01 | 2007-03-29 | DAILY | 2400 | ATEMP | | |
| PRECIP | 2007-03-29 | 2010-09-30 | HOURLY | 2400 | AWPAG | RCRD;HTD | |
| PRECIP | 2010-09-30 | Present | DAILY | 2400 | PCPNX | SHLD | |
| PRECIP | 1982-01-01 | 1989-01-01 | DAILY | 2400 | | | |
| WIND | 2006-11-01 | 2007-03-29 | HOURLY | UNKN | ANEMCUP | | |
| PRECIP | 2006-11-01 | 2007-03-29 | HOURLY | 2400 | AWPAG | RCRD;HTD | |
| TEMP | 1982-01-01 | 1989-01-01 | DAILY | 2400 | | | |
| PRECIP | 1989-01-01 | 1995-07-01 | DAILY | 2400 | SRG | | |
| TEMP | 2007-03-29 | 2010-09-30 | DAILY | 2400 | ATEMP | | |
| WIND | 2010-09-30 | Present | HOURLY | UNKN | ANEMSONIC | | |

* For explanation of codes and abbreviations see Station Metadata link below.

Other Station Information can be found at:

ASOS Implementation by NWS: <http://www.nws.noaa.gov/ops2/Surface/asos2implementation.htm>

Station Metadata website: <http://www.ncdc.noaa.gov/homr>

INQUIRES/COMMENTS CALL: (828) 271-4800, option 2

Fax Number : (828) 271-4876

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Email : ncdc.orders@noaa.gov

NOAA/National Climatic Data Center

Attn: User Engagement & Services Branch

151 Patton Avenue

Asheville, NC 28801-5001

Visit our Web Site for other weather data: www.ncdc.noaa.gov