

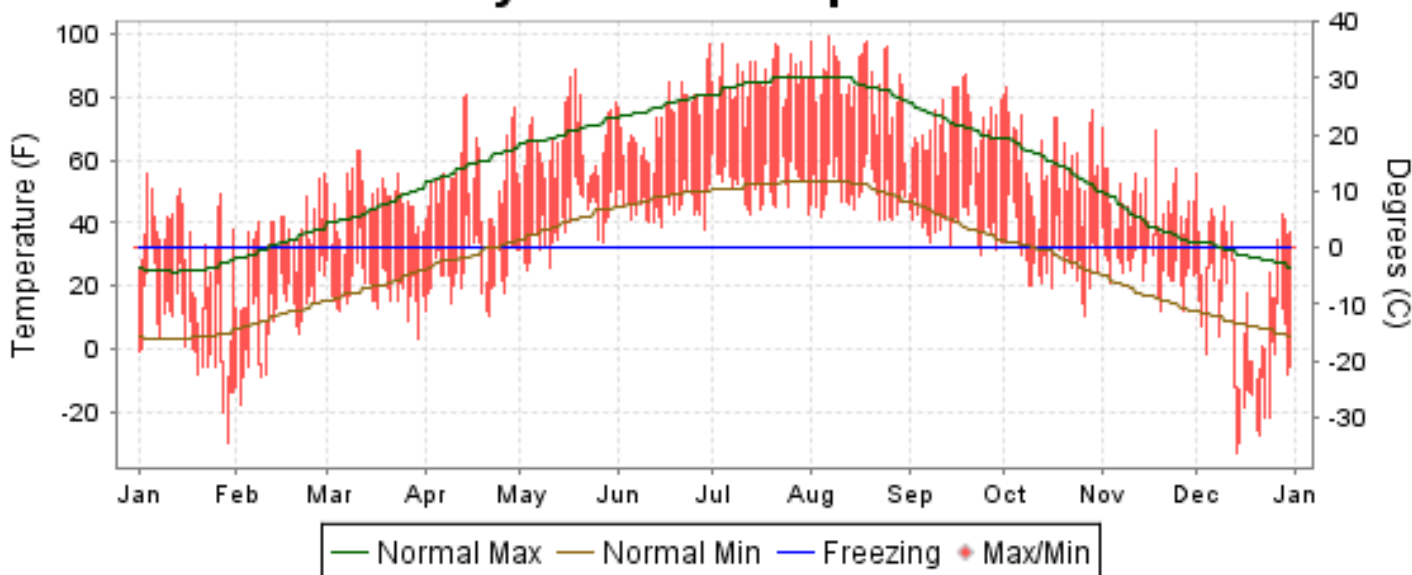


2008 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

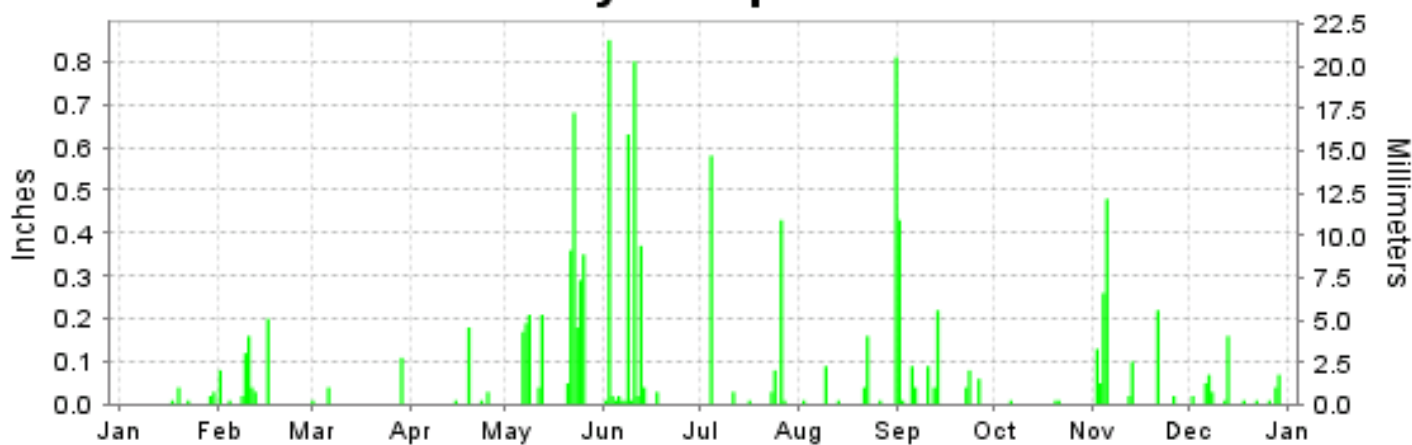
ISSN 0198-3008

HAVRE, MONTANA (KHVR)

Daily Max/Min Temperature



Daily Precipitation



Daily Station Pressure



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NATIONAL
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ENVIRONMENTAL SATELLITE, DATA
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NATIONAL
CLIMATIC DATA CENTER
ASHEVILLE, NORTH CAROLINA

Thomas R. Karl
DIRECTOR
NATIONAL CLIMATIC DATA CENTER

METEOROLOGICAL DATA FOR 2008

HAVRE (KHVR)

LATITUDE: 48° 33'N LONGITUDE: -109° 46'W ELEVATION (FT): GRND: 2585 BARO: 2584 TIME ZONE: MOUNTAIN (UTC -7) WBAN: 94012

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	31.1	32.6	47.1	54.1	66.2	73.6	85.8	85.2	70.9	60.4	47.1	22.6	56.4	
	HIGHEST DAILY MAXIMUM	56	56	63	81	89	97	97	99	87	83	70	56	99	
	DATE OF OCCURRENCE	04	29	11+	14	18	30	21+	07	19	02	01	01	AUG 07	
	MEAN DAILY MINIMUM	4.8	9.1	18.7	24.3	39.5	45.6	52.0	49.3	39.9	28.3	25.9	-0.2	28.1	
	LOWEST DAILY MINIMUM	-30	-18	3	10	25	38	43	41	30	10	12	-33	-33	
	DATE OF OCCURRENCE	29	02	30	21	03	28	31+	27+	24	27	27+	14	DEC 14	
	AVERAGE DRY BULB	18.0	20.9	32.9	39.2	52.9	59.6	68.9	67.3	55.4	44.4	36.5	11.2	42.3	
	MEAN WET BULB	15.7	17.8	27.9	32.8	46.0	51.6	56.7	54.5	47.3	37.1	32.4	10.7	35.9	
	MEAN DEW POINT	8.5	13.3	17.9	22.4	38.4	44.1	46.6	43.2	40.3	27.3	26.9	5.5	27.9	
	NUMBER OF DAYS WITH:														
	MAXIMUM >= 90°	0	0	0	0	0	2	10	11	0	0	0	0	0	23
	MAXIMUM <= 32°	13	7	1	1	0	4	0	0	0	0	0	17	43	
	MINIMUM <= 32°	31	29	30	24	7	0	0	0	2	24	27	31	205	
MINIMUM <= 0°	14	8	0	0	0	0	0	0	0	0	0	16	38		
H/C	HEATING DEGREE DAYS	1450	1273	990	766	378	175	11	53	281	632	848	1662	8519	
	COOLING DEGREE DAYS	0	0	0	0	7	23	138	130	2	0	0	0	300	
RH	MEAN (PERCENT)	66	75	58	55	62	60	49	46	64	55	72	73	61	
	HOUR 05 LST	74	80	75	76	78	79	74	71	86	71	78	74	76	
	HOUR 11 LST	57	68	43	42	49	45	32	29	47	40	62	70	49	
	HOUR 17 LST	64	71	44	38	48	41	28	31	44	45	73	75	50	
	HOUR 23 LST	71	80	68	66	73	75	64	58	77	63	80	75	71	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG(VISBY <= 1/4 MI)	0	3	2	1	1	0	0	0	0	0	3	1	11	
	THUNDERSTORMS	0	0	0	0	4	4	4	5	2	0	0	0	19	
CLOUDNESS	SUNRISE-SUNSET: (OKTAS)														
	CEILOMETER (<= 12,000 FT.)														
	SATELLITE (> 12,000 FT.)														
	MIDNIGHT-MIDNIGHT: (OKTAS)														
	CEILOMETER (<= 12,000 FT.)														
SATELLITE (> 12,000 FT.)															
NUMBER OF DAYS WITH:															
CLEAR															
PARTLY CLOUDY															
CLOUDY															
PR	MEAN STATION PRESS. (IN.)	27.15	27.19	27.23	27.19	27.21	27.19	27.21	27.19	27.32	27.34	27.27	27.22	27.23	
	MEAN SEA-LEVEL PRESS. (IN.)	29.98	30.02	30.01	29.94	29.92	29.88	29.88	29.86	30.04	30.09	30.05	30.07	29.98	
WINDS	RESULTANT SPEED (MPH)	6.2	3.7	4.8	4.9	1.1	3.1	3.1	2.7	2.5	4.2	3.9	6.0	3.7	
	RES. DIR. (TENS OF DEGS.)	24	25	26	26	32	27	28	28	25	25	24	24	26	
	MEAN SPEED (MPH)	10.6	8.8	9.8	10.3	9.5	8.6	8.2	9.5	6.6	9.5	9.0	11.2	9.3	
	PREVAIL.DIR.(TENS OF DEGS.)	23	23	23	23	23	24	23	23	23	23	22	23	23	
	MAXIMUM 2-MINUTE WIND														
	SPEED (MPH)	40	36	51	39	41	41	52	45	30	43	35	41	52	
	DIR. (TENS OF DEGS.)	28	33	27	31	30	30	20	31	22	25	32	06	20	
	DATE OF OCCURRENCE	15	08	24	29	06	12	04	19	21	07	13	13	JUL 04	
	MAXIMUM 3-SECOND WIND:														
	SPEED (MPH)	49	43	62	48	48	49	67	59	36	53	46	52	67	
DIR. (TENS OF DEGS.)	32	30	27	31	33	30	20	30	22	26	32	05	20		
DATE OF OCCURRENCE	15	13	24	29	11	12	04	19	21	07	13	13	JUL 04		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	0.11	0.66	0.16	0.23	2.73	2.83	1.17	1.13	1.10	0.03	1.28	0.48	11.91	
	GREATEST 24-HOUR (IN.)	0.05	0.20	0.11	0.18	0.91	0.85	0.58	0.81	0.83	0.02	0.74	0.17	0.91	
	DATE OF OCCURRENCE	29-30	16	29	19	21-22	02	04	31	31-01	20-21	04-05	12-13	MAY 21-22	
	NUMBER OF DAYS WITH:														
	PRECIPITATION 0.01	5	8	3	4	11	14	7	7	10	3	8	11	91	
PRECIPITATION 0.10	0	3	1	1	9	5	2	2	2	0	5	1	31		
PRECIPITATION 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0		
SNOWFALL	SNOW,ICE PELLETS,HAIL														
	TOTAL (IN.)	1.8	9.0	1.7	3.5	0.0	0.0	0.0	0.0	0.0	T	2.6	16.2	34.8	
	GREATEST 24-HOUR (IN.)	0.6	3.0	0.6	2.0	0.0	0.0	0.0	0.0	0.0	T	2.3	4.0	4.0	
	DATE OF OCCURRENCE	29	10	06+	19						25	21	13	DEC 13	
	MAXIMUM SNOW DEPTH (IN.)	1	6	1	3	0	0	0	0	0	0	2	8	8	
	DATE OF OCCURRENCE	31+	11	30+	20						21	26+		DEC 26+	
	NUMBER OF DAYS WITH:														
SNOWFALL >= 1.0	0	6	0	2	0	0	0	0	0	0	1	7	16		

NORMALS, MEANS, AND EXTREMES HAVRE (KHVR)

LATITUDE:
48 ° 33'N

LONGITUDE:
-109 ° 46'W

ELEVATION (FT):
GRND: 2585 BARO: 2584

TIME ZONE:
MOUNTAIN (UTC -7)

WBAN: 94012

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	25.5	33.4	44.9	58.5	68.8	77.4	84.6	83.9	71.9	59.4	40.8	30.1	56.6
	MEAN DAILY MAXIMUM	41	26.3	32.8	43.8	57.0	67.4	75.8	84.5	83.1	70.6	59.0	42.0	30.3	56.1
	HIGHEST DAILY MAXIMUM	9	64	64	79	91	96	100	106	109	96	84	78	61	109
	YEAR OF OCCURRENCE		2005	2002	2004	2001	2001	2006	2007	2001	2003	2004	1999	2002	AUG 2001
	MEAN OF EXTREME MAXS.	41	51.6	54.8	67.2	78.4	86.4	93.9	99.1	98.5	91.0	80.9	65.4	53.4	76.7
	NORMAL DAILY MINIMUM	30	3.7	10.4	20.0	30.0	40.2	48.0	52.0	51.3	40.7	29.8	17.3	7.8	29.3
	MEAN DAILY MINIMUM	41	4.6	10.3	20.2	30.6	40.6	48.3	53.1	51.7	41.2	30.9	18.5	8.2	29.9
	LOWEST DAILY MINIMUM	9	-34	-31	-27	4	14	35	39	34	21	-2	-14	-33	-34
	YEAR OF OCCURRENCE		2005	2003	2002	2002	2005	2004	2000	2002	2000	2003	2006	2008	JAN 2005
	MEAN OF EXTREME MINS.	41	-22.4	-15.4	-3.9	13.7	27.6	36.8	42.8	40.2	27.6	12.9	-6.1	-20.2	11.1
	NORMAL DRY BULB	30	14.6	21.9	32.5	44.3	54.5	62.7	68.3	67.6	56.3	44.6	29.1	19.0	43.0
	MEAN DRY BULB	9	20.2	21.9	32.6	44.2	53.7	61.8	71.6	68.5	56.5	44.1	32.6	21.9	44.1
	MEAN WET BULB	19	17.4	18.8	28.2	36.3	44.4	50.9	54.0	52.2	44.7	35.4	25.6	18.8	35.6
	MEAN DEW POINT	19	13.5	13.5	23.8	29.7	36.6	44.9	47.4	45.8	38.7	29.8	21.5	14.4	30.0
	NORMAL NO. DAYS WITH: MAXIMUM >= 90	30	0.0	0.0	0.0	*	0.3	3.3	9.1	9.4	2.0	*	0.0	0.0	24.1
	MAXIMUM <= 32	30	16.7	11.3	5.8	0.8	0.0	0.0	0.0	0.0	0.0	1.0	7.6	14.4	57.6
MINIMUM <= 32	30	29.5	26.3	27.2	15.7	2.9	0.1	0.0	0.0	3.6	17.0	26.5	29.6	178.4	
MINIMUM <= 0	30	12.7	7.6	2.3	0.2	0.0	0.0	0.0	0.0	0.0	0.3	3.5	8.5	35.1	
H/C	NORMAL HEATING DEG. DAYS	30	1547	1201	999	613	324	113	33	49	270	622	1067	1412	8250
	NORMAL COOLING DEG. DAYS	30	0	0	0	1	10	59	146	141	19	1	0	0	377
RH	NORMAL (PERCENT)	30	72	70	68	56	54	54	50	49	56	61	71	70	61
	HOURLY 05 LST	30	75	76	80	74	73	75	72	70	73	74	76	74	74
	HOURLY 11 LST	30	70	66	60	47	45	43	38	40	46	51	64	68	53
	HOURLY 17 LST	30	69	63	52	40	38	37	31	30	36	44	62	68	48
	HOURLY 23 LST	30	74	75	74	63	61	64	58	54	62	66	74	74	67
S	PERCENT POSSIBLE SUNSHINE														
W/O	MEAN NO. DAYS WITH: HEAVY FOG(VISBY <= 1/4 MI)	33	1.1	1.5	1.7	1.1	0.5	0.1	0.1	0.2	0.3	1.0	1.5	1.1	10.2
	THUNDERSTORMS	35	0.0	0.0	0.1	0.7	2.8	5.9	7.0	5.4	1.6	0.3	0.0	0.0	23.8
CLOUDNESS	MEAN: SUNRISE-SUNSET (OKTAS)														
	MIDNIGHT-MIDNIGHT (OKTAS)														
	MEAN NO. DAYS WITH: CLEAR														
	PARTLY CLOUDY CLOUDY														
PR	MEAN STATION PRESSURE(IN)	19	27.28	27.28	27.23	27.22	27.21	27.21	27.24	27.26	27.27	27.27	27.26	27.25	27.25
	MEAN SEA-LEVEL PRES. (IN)	19	30.11	30.10	30.01	29.96	29.91	29.89	29.91	29.94	29.99	30.02	30.06	30.07	30.00
WINDS	MEAN SPEED (MPH)	19	9.3	8.8	9.4	9.9	10.0	9.3	8.2	8.2	8.4	8.9	9.4	9.7	9.1
	PREVAIL.DIR(TENS OF DEGS)	3	22	23	23	23	23	22	23	23	23	22	23	23	23
	MAXIMUM 2-MINUTE: SPEED (MPH)	9	46	45	51	49	46	58	52	49	44	60	52	46	60
	DIR. (TENS OF DEGS)		25	30	27	28	31	21	20	26	31	27	25	26	27
	YEAR OF OCCURRENCE		2003	2002	2008	2002	2001	2006	2008	2004	2002	1999	2006	2006	OCT 1999
	MAXIMUM 3-SECOND SPEED (MPH)	9	55	54	62	60	61	76	67	63	55	69	60	53	76
	DIR. (TENS OF DEGS)		25	26	27	32	32	22	20	26	24	26	26	30	22
	YEAR OF OCCURRENCE		2003	2006	2008	2003	2001	2006	2008	2004	2004	1999	2007	2001	JUN 2006
PRECIPITATION	NORMAL (IN)	30	0.47	0.36	0.70	0.87	1.84	1.90	1.51	1.20	1.03	0.62	0.45	0.51	11.46
	MAXIMUM MONTHLY (IN)	9	0.37	0.80	0.81	2.13	3.50	5.13	2.97	2.40	1.73	.98	1.28	0.48	5.13
	YEAR OF OCCURRENCE		2007	2007	2007	2007	2004	2005	2001	2002	2007	2005	2008	2008	JUN 2005
	MINIMUM MONTHLY (IN)	9	0.03	0.01	0.07	0.18	0.61	0.59	0.07	0.13	0.33	0.03	0.04	0.01	0.01
	YEAR OF OCCURRENCE		2005	2005	2001	2002	2001	2000	2006	2000	2001	2008	2001	2001	FEB 2005
	MAXIMUM IN 24 HOURS (IN)	9	0.24	0.40	0.73	1.08	1.09	1.66	1.79	1.40	0.89	0.58	0.74	0.18	1.79
	YEAR OF OCCURRENCE		2007	2007	2007	2007	2004	2002	2002	2002	2007	1999	2008	2006	JUL 2002
	NORMAL NO. DAYS WITH: PRECIPITATION >= 0.01	30	7.4	5.8	7.9	7.5	9.7	10.4	7.9	7.8	7.0	5.4	6.1	7.0	89.9
PRECIPITATION >= 1.00	30	0.0	0.0	*	*	0.3	0.3	0.2	0.1	0.1	0.0	0.0	0.0	1.0	
SNOWFALL	NORMAL (IN)	30	8.8	6.5	8.1	4.8	1.5	0.0	0.0	0.*	0.3	2.4	5.4	7.6	45.4
	MAXIMUM MONTHLY (IN)	4	5.5	13.4	12.1	6.5	3.6	0.0	0.0	0.0	T	2.8	7.3	16.2	16.2
	YEAR OF OCCURRENCE		2007	2007	2005	2007	2004				2006	2004	2006	2008	DEC 2008
	MAXIMUM IN 24 HOURS (IN)	4	2.1	.2	3.8	2.7	3.1	0.0	0.0	0.0	T	1.7	4.0	4.8	4.8
	YEAR OF OCCURRENCE'		2005	2005	2005	2004	2004				2006	2004	2005	2005	DEC 2005
	MAXIMUM SNOW DEPTH (IN)	4	6	7	4	3	3	0	0	0	0	2	5	9	9
	YEAR OF OCCURRENCE		2005	2007	2006	2008	2004				2004	2006	2005	2005	DEC 2005
NORMAL NO. DAYS WITH: SNOWFALL >= 1.0	30	2.7	2.4	2.2	1.4	0.3	0.0	0.0	0.0	0.1	0.8	2.0	2.7	14.6	

PRECIPITATION (inches) 2008 HAVRE (KHVR)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1999			0.19	1.39	1.80	3.27	0.39	1.01	1.21	0.87	0.18	0.02	
2000	0.15	0.11	0.44	0.54	2.06	0.59	1.79	0.13	0.93	0.64	0.18	0.15	7.71
2001	0.23	0.09	0.07	0.62	0.61	1.45	2.97	0.18	0.33	0.34	0.04	0.01	6.94
2002	0.25	0.19	0.20	0.18	1.59	4.64	2.31	2.40	1.16	0.40	0.29	0.08	13.69
2003	0.22	0.14	0.20	1.96	1.65	2.39	0.42	0.77	1.36	0.37	0.09	0.24	9.81
2004	0.19	0.05	0.09	0.76	3.50	2.06	1.08	1.50	1.36	0.67	0.10	0.16	11.52
2005	0.03	0.01	0.62	0.49	0.85	5.13	0.37	1.10	0.50	0.98	0.70	0.42	11.20
2006	0.32	0.36	0.22	0.88	1.63	1.80	0.07	0.80	1.13	0.69	0.45	0.27	8.62
2007	0.37	0.80	0.81	2.13	2.39	1.86	1.22	0.25	1.73	0.23	0.08	0.22	12.09
2008	0.11	0.66	0.16	0.23	2.73	2.83	1.17	1.13	1.10	0.03	1.28	0.48	11.91
POR= 9 YRS	0.21	0.26	0.30	0.92	1.88	2.60	1.18	0.93	1.08	0.52	0.34	0.21	10.43

WBAN : 94012

AVERAGE TEMPERATURE (°F) 2008 HAVRE (KHVR)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1999			37.7	42.7	52.5	60.1	65.5	69.8	54.0	45.8	38.2	32.4	
2000	16.1	23.7	36.1	45.0	54.2	60.7	71.2	69.3	56.9	42.8	25.8	13.6	43.0
2001	24.9	11.4	36.7	46.7	60.2	65.5	74.2	74.6	60.7	43.9	36.4	21.2	46.4
2002	21.6	28.0	12.6	39.1	49.9	61.4	70.8	63.5	56.7	37.7	36.2	27.8	42.1
2003	20.8	19.6	27.7	47.2	52.7	62.6	73.0	73.3	55.9	49.2	21.2	24.0	43.9
2004	11.3	17.9	38.5	47.2	49.8	58.9	69.2	65.2	56.1	42.8	34.6	26.1	43.1
2005	12.7	28.3	34.9	45.5	52.0	61.3	70.6	65.5	56.6	46.1	35.3	18.4	43.9
2006	33.8	23.6	29.7	47.4	57.0	65.0	75.5	68.3	57.4	41.0	29.9	23.9	46.0
2007	22.5	18.3	39.8	41.9	55.3	63.3	76.6	68.6	55.9	47.7	32.2	20.6	45.2
2008	18.0	20.9	32.9	39.2	52.9	59.6	68.9	67.3	55.4	44.4	36.5	11.2	42.3
POR= 9 YRS	20.2	21.9	32.6	44.2	53.7	61.8	71.6	68.5	56.5	44.1	32.6	21.9	44.1

HEATING DEGREE DAYS (base 65°F) 2008 HAVRE (KHVR)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1998-99									841	660	389	153	
1999-00	85	17	333	586	799	1002	1508	1192	889	593	330	147	7481
2000-01	9	38	254	683	1170	1585	1236	1496	870	545	187	72	8145
2001-02	4	2	146	646	848	1352	1340	1032	1617	771	464	165	8387
2002-03	20	90	259	840	859	1146	1365	1262	1152	525	384	127	8029
2003-04	10	21	303	495	1306	1262	1656	1358	814	530	465	189	8409
2004-05	23	62	272	681	906	1197	1617	1023	928	577	397	137	7820
2005-06	11	82	257	581	883	1438	962	1154	1087	523	277	58	7313
2006-07	1	28	233	739	1047	1266	1309	1303	773	687	300	92	7778
2007-08	3	30	298	528	977	1367	1450	1273	990	766	378	175	8235
2008-	11	53	281	632	848	1662							

WBAN : 94012

COOLING DEGREE DAYS (base 65°F) 2008 HAVRE (KHVR)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1999			0	0	9	12	108	175	10	0	0	0	
2000	0	0	0	0	3	25	205	178	15	0	0	0	426
2001	0	0	0	6	46	92	298	308	25	0	0	0	775
2002	0	0	0	0	2	64	209	51	17	0	0	0	343
2003	0	0	0	0	11	60	263	286	37	9	0	0	666
2004	0	0	0	0	0	15	161	76	11	0	0	0	263
2005	0	0	0	0	1	32	192	105	12	0	0	0	342
2006	0	0	0	0	36	64	334	138	14	0	0	0	586
2007	0	0	0	0	6	50	367	146	32	0	0	0	601
2008	0	0	0	0	7	23	138	130	2	0	0	0	300

SNOWFALL (inches) 2008 HAVRE (KHVR)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2003-04							0.0	0.0	0.0	2.7	3.6	0.0	
2004-05	0.0	0.0	0.0	2.8	1.2	0.9	4.5	0.2	12.1	T	T	0.0	21.7
2005-06	0.0	0.0	0.0	T	6.0	9.5	5.5	7.5	5.7	T	T	0.0	34.2
2006-07	0.0	0.0	T	1.2	7.3	5.4	5.5	13.4	T	6.5	0.0	0.0	39.3
2007-08	0.0	0.0	0.0	0.0	0.6	3.2	1.8	9.0	1.7	3.5	0.0	0.0	19.8
2008-	0.0	0.0	0.0	T	2.6	16.2							
POR= 5 YRS	0.0	0.0	T	0.8	3.5	7.0	3.5	5.1	3.9	2.5	0.7	0.0	27.0

WBAN : 94012

REFERENCE NOTES :

<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. NORMALS ARE 30-YEAR AVERAGES (1971 - 2000). 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 AND ON SATELLITE DATA FOR CLOUDS ABOVE 12,000 FEET. THE NUMBER OF DAYS WITH CLEAR, PARTLY CLOUDY, AND CLOUDY CONDITIONS FOR ASOS STATIONS IS THE SUM OF THE CEILOMETER AND SATELLITE DATA FOR THE SUNRISE TO SUNSET PERIOD.</p>	<p>GENERAL CONTINUED: CLEAR INDICATES 0 - 2 OKTAS, PARTLY CLOUDY INDICATES 3 - 6 OKTAS, AND CLOUDY INDICATES 7 OR 8 OKTAS. WHEN AT LEAST ONE OF THE ELEMENTS (CEILOMETER OR SATELLITE) IS MISSING, THE DAILY CLOUDINESS IS NOT COMPUTED. 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 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.</p> <p>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 EIGHTS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER.</p> <p>NOTE: The "Period of Record:(POR) for all "averages" is based on the "Summary of the Day First Order Station" and "Cooperative Summary of the Day" archives.</p>
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2008 HAVRE MONTANA (KHVR)

Havre, Montana, is located in a level valley formed by the Milk River, which courses through the city from west to east. Most of the city lies on the south side of the river. On the north side, hills rise abruptly to about 200 feet above the valley floor. The land mass north to the Canadian border is gently rolling and increases slightly in elevation. During winter months, frequent invasions of cold polar continental air move down across these rolling plains, bringing snow and sub-zero temperatures.

The Bearpaw Mountains extend from 15 to 30 miles south of Havre. Most of the peaks are from 4,000 to 5,000 feet above sea level, and several are above 6,000 feet. The highest is Old Baldy, 6,916 feet above sea level.

Winters are cold in the Havre area, but snow cover is seldom more than a few inches, and usually some ground is bare. Spells of mild weather do occur at least a few times each winter, arriving with sometimes fresh to strong southwest to west foehn winds. During winter months, rain rarely falls. Winter precipitation is almost always in the form of snow. The transition from winter to spring conditions is fairly rapid in the usual year, but cold snaps and snow can occur as late as early May or as early as September.

Summers are characterized by warm weather, seldom exceeding 95 degrees. Daytime warmest readings usually run from the 80s to the mid-90s during most of July and August, but summer relative humidities are seldom as high as 50 percent during afternoon hours. Summertime night temperatures are rarely oppressively warm. Most spring and summer precipitation falls as showers, but occasionally steady rains lasting several hours are observed in May and June, and again in September. Fall seasons are characterized by much clear weather, although cold snaps of a day or two, with some snow, can occur as early as mid-September.

Station Location

HAVRE

LOCATION	Occupied From	Occupied To	Airline Distances and Directions from previous Location	Latitude		Longitude		ELEVATION ABOVE								REMARKS		
				NORTH	WEST	SEA LEVEL	GROUND							AUTOMATIC OBSERVING EQUIPMENT *				
							GROUND TEMPERATURE SITE	WIND INSTRUMENT	EXTREME THERMOMETERS	PSYCHROMETER	SUNSHINE SWITCH	TIPPING BUCKET RAIN GAUGE	WEIGHING RAIN GAUGE		8 INCH RAIN GAUGE		HYGROTHERMOMETER	
<u>AIRPORT</u> City-County Airport	04/01/94	Present	NA	48° 34'	109° 47'	a2581											S	ASOS Commissioned 04/01/94. a. Ground elevation.

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