U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
IN COOPERATION WITH BELLINGHAM CHAMBER OF COMMERCE
CLIMATOGRAPHY OF THE UNITED STATES NO. 20 -- 45

CLIMATOLOGICAL SUMMARY

LATITUDE 48° 47'
LONGITUDE 122° 29'
ELEV. (GROUND) 120 feet

STATION Bellingham, Washington

MEANS AND EXTREMES FOR PERIOD 1928-1957

Month	Temperature (°F)							** Mean degree days #	Precipitation Totals (Inches)								Mean number of days					Month
	Means			Extremes								Snow, Sleet						Temperatures				
																		Max.		Min.		
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year		Mean	Greatest daily	Year	Mean	Maximum monthly	Year	Greatest daily	Year	Precip. .10 inch or more	90° and above	32° and below	32° and below	0° and below	
(a)	30	30	30	30		30		30	30	30		25	30		30		30	30	30	30	30	
Jan.	43.1	28.9	36.0	64	1935	-4	1937+	900	3.98	2.95	1935	2.5	11.0	1937	7.5	1929	11	0	4	18	*	Jan.
Feb.	47.5	30.7	39.1	66	1943+	-3	1950	730	3.15	2.02	1951	2.3	15.2	1936	6.0	1949	9	0	1	16	*	Feb.
Mar.	52.2	33.9	43.1	72	1928	10	1955	680	3.21	1.59	1930	1.3	27.0	1951	9.0	1951	10	0	*	13	0	Mar.
Apr.	58.6	37.0	47.8	82	1934	19	1951	520	2.16	1.28	1944	T	T	1948	T	1948	7	0	0	8	0	Apr.
May	64.9	41.1	53.0	85	1956	22	1954	370	1.72	2.26	1952						5	0	0	2	0	May
June	68.8	46.1	57.5	92	1955	29	1933	230	1.96	2.32	1946						5	*	0	*	0	June
July	73.3	47.7	60.5	94	1951+	34	1949+	140	1.00	1.50	1932						3	*	0	0	0	July
Aug.	73.7	47.0	60.4	91	1935+	34	1945+	140	1.00	1.77	1950						3	*	0	0	0	Aug.
Sept.	69.5	43.5	56.5	90	1951	27	1934	260	1.88	1.50	1930						5	0	0	1	0	Sept.
Oct.	60.8	39.0	50.0	83	1936	22	1949	470	3.63	1.96	1945	T	T	1949	T	1949	9	0	0	6	0	Oct.
Nov.	51.6	34.5	43.1	71	1949	3	1955	660	4.18	1.81	1932	.7	7.0	1937	4.0	1955+	11	0	*	11	0	Nov.
Dec.	46.6	32.4	39.5	67	1941	5	1932	800	4.76	1.85	1949	1.8	7.5	1948	5.0	1949+	13	0	1	14	0	Dec.
Year	59.2	38.5	48.9	94	July 1951+	-4	Jan. 1937+	5900	32.63	2.95	Jan. 1935	8.6	27.0	Mar. 1951	9.0	Mar. 1951	91	*	6	89	*	Year

(a) Average length of record, years.

T Trace, an amount too small to measure.

** Base 65°F

+ Also on earlier dates, months, or years.

* Less than one half.

Estimated.

NARRATIVE CLIMATOLOGICAL SUMMARY

Bellingham, the County Seat of Whatcom County, is located along the shore of Bellingham Bay. To the west, across the Strait of Georgia, is Vancouver Island, with the San Juan group between and extending southward to the confluence of the Straits of Georgia and Juan de Fuca. The Strait of Georgia offers a sea level outlet to the Pacific Ocean in a northwesterly direction, and the Strait of Juan de Fuca in a westerly direction.

Some of the factors which play an important role in the climate of Bellingham are: its distance from the Pacific Ocean and other large bodies of water; coastal ranges of mountains on the Olympic Peninsula and Vancouver Island; the Cascade range of mountains which rise to elevations of 5000 - 8000 feet within 75 miles east of the city; the southerly migration of storms moving out of the Gulf of Alaska during the winter and their return to a more northerly path in the summer.

The coastal mountains on Vancouver Island and the Olympic Peninsula protect the city from the main force of storms moving eastward from over the Pacific Ocean. Breaks in the coastal mountains and the Straits of Georgia and Juan de Fuca permit a large amount of moist air from over the ocean to reach the area. This marine air is usually warmer in the winter and cooler in the summer than air over the interior of the continent at this latitude. The climate of Bellingham can be classified as a marine type in most respects. The air is rather moist throughout most of the year and the daily range in temperature is small. Maximum temperatures of 90 degrees or above are unusual and are of short duration in the summer.

The Cascade Mountains shield the area from cold air in the interior during the winter and the warm air in the summer. However, occasionally cold air from the interior of Canada will move through the Frasier River Canyon and spread southward bringing low temperatures to the Bellingham area.

The lowest temperatures in the winter and highest in the summer are usually associated with easterly or northeasterly winds. The lowest humidity is observed when easterly winds are blowing down the western slope of the Cascades.

The prevailing southwesterly circulation of warm, moist air from over the Pacific Ocean keeps the average winter day time temperature in the 40's and the night time temperature in the upper 20's or lower 30's. There is a gradual shift of the winds to a westerly and northerly direction during the summer. Cool air from over the Pacific Ocean in the summer keeps the average afternoon temperature in the mid-70's and the night time temperature in the mid-40's.

The highest wind velocities are usually from a southwesterly direction during the winter, although occasionally strong northerly winds occur with the passage of a storm. Wind velocities are usually much lower in the summer than in the winter months.

There is a pronounced, though not sharply defined, rainy season and considerable cloudiness during the winter. About three-fourths of the annual rainfall is received from October through April. December is the wettest month and July and August are the driest months. The precipitation pattern in the agricultural area north and south of Bellingham is similar. Snowfall is rather light and on the average does not remain on the ground for long periods of time. Precipitation and snowfall increase rapidly in an easterly direction. Some of the heaviest snowfall and greatest snow depths in the United States have been recorded in the Mt. Baker area, approximately 40 miles east of the city.

Earl L. Phillips
Weather Bureau
State Climatologist
Seattle, Washington

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1928	39.0	40.0	45.0	47.8	55.6	57.8	62.8	59.2	54.0	48.7	43.9	38.6	49.4
1929	30.2	33.7	44.2	44.8	51.8	57.2	60.0	60.8	55.8	51.2	40.6	38.2	47.4
1930	25.6	41.8	43.2	50.0	51.0	56.3	59.0	60.6	56.4	46.6	41.6	39.8	48.5
1931	44.1	40.8	45.0	49.6	54.6	58.2	60.6	59.6	55.8	49.9	39.4	40.0	49.8
1932	35.2	38.1	44.3	47.6	51.6	58.0	57.2	59.8	56.3	50.3	47.4	35.8	48.5
1933	37.8	34.6	43.8	45.8	50.2	55.4	58.0	62.2	54.0	49.8	44.6	41.6	48.2
1934	42.2	43.2	46.0	52.1	53.2	57.3	59.4	60.8	55.3	51.2	47.7	40.4	50.7
1935	36.4	42.6	40.7	45.2	51.2	57.4	60.1	60.4	57.3	47.8	40.4	42.6	48.5
1936	40.0	29.7	41.2	49.0	55.2	59.7	60.6	60.6	54.6	51.3	41.8	40.6	48.7
1937	24.9	37.1	46.5	46.8	52.1	58.2	60.6	59.6	56.6	52.5	44.4	40.2	48.3
1938	38.4	39.7	42.6	48.6	51.4	58.4	60.8	58.4	58.8	50.7	40.2	38.8	48.9
1939	41.6	36.2	42.8	48.6	52.6	55.7	60.5	61.3	55.2	49.4	48.6	45.2	49.8
1940	40.2	43.0	46.2	50.5	54.8	59.4	60.4	61.0	58.8	52.2	39.8	41.6	50.7
1941	41.2	42.8	47.7	50.2	53.1	57.0	63.6	60.2	55.1	50.6	45.4	40.0	50.6
1942	37.0	40.2	44.2	48.6	53.0	57.0	62.5	63.2	55.8	52.0	42.0	40.8	49.7
1943	30.1	42.3	40.7	49.8	49.8	55.6	59.7	59.6	57.7	49.8	44.3	37.2	48.0
1944	40.0	40.4	42.0	48.2	52.0	57.7	62.3	60.5	58.2	51.6	44.6	36.6	49.5
1945	40.4	41.9	42.8	44.8	54.9	56.3	61.2	60.0	54.2	49.9	40.9	38.4	48.8
1946	40.6	42.0	43.9	47.3	54.7	57.7	60.8	60.8	56.8	47.2	39.3	37.8	49.1
1947	33.9	42.1	44.8	50.2	55.2	58.4	61.2	59.8	57.0	50.5	41.4	40.4	49.6
1948	38.0	37.6	41.7	46.3	52.2	60.6	60.1	60.2	55.3	47.8	42.0	33.5	48.0
1949	28.7	34.7	43.4	47.6	53.6	56.4	59.3	59.8	57.4	46.2	48.7	36.5	47.7
1950	20.9	39.5	42.4	46.3	50.5	58.9	61.4	60.7	56.1	49.5	42.2	44.4	47.7
1951	36.5	38.2	37.7	47.0	53.2	58.6	61.4	59.4	56.7	49.3	42.6	34.3	47.9
1952	34.8	40.1	42.7	47.2	53.2	55.5	60.3	61.2	58.3	51.7	40.7	41.4	48.9
1953	43.9	40.9	43.5	48.4	54.9	56.3	61.9	62.6	57.5	51.7	48.1	42.4	51.0
1954	33.2	42.1	40.4	45.1	52.8	55.3	58.3	59.9	57.3	49.4	48.7	41.4	48.6
1955	38.8	37.5	38.1	44.2	49.6	56.7	58.6	58.8	55.4	49.7	36.9	36.2	46.7
1956	37.9	35.2	40.7	48.3	55.0	56.8	62.4	60.4	57.0	48.8	41.3	39.4	48.6
1957	28.6	36.8	43.8	48.9	56.8	59.7	59.9	60.2	60.3	49.8	42.1	43.0	49.2

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1928	4.75	1.05	2.87	3.17	.26	2.21	.60	.60	1.18	5.50	2.56	2.47	27.22
1929	1.56	1.44	2.77	1.32	1.90	.60	.11	.54	1.21	2.17	2.38	3.94	19.94
1930	2.48	5.18	3.07	2.07	2.53	1.59	.06	.01	2.81	5.35	2.46	1.48	29.09
1931	5.14	2.71	5.14	1.95	1.44	4.71	.77	.05	5.07	1.33	5.20	4.95	38.46
1932	4.12	5.72	7.20	2.88	.60	2.05	3.18	1.34	.96	5.90	9.51	5.15	48.61
1933	5.10	2.43	3.31	1.17	2.41	1.50	1.46	1.00	5.18	6.07	3.50	10.89	44.02
1934	5.47	1.81	4.97	.87	1.98	.29	1.14	.79	2.01	1.91	5.86	5.57	32.67
1935	11.71	1.41	3.93	1.26	.31	1.61	1.15	.97	2.82	3.26	2.08	2.03	32.54
1936	5.84	4.36	3.09	3.23	3.12	3.45	1.67	.85	2.81	.77	1.35	6.67	37.21
1937	1.58	4.96	2.50	3.41	1.45	4.67	.02	1.91	1.03	2.72	7.41	5.29	36.95
1938	2.61	1.66	2.52	3.76	1.24	.04	1.04	.29	1.15	3.52	3.77	7.59	29.19
1939	6.20	3.64	1.94	1.99	1.54	2.31	1.51	.40	.28	4.31	5.16	5.98	35.26
1940	2.13	5.07	5.13	1.11	2.11	.26	.69	.91	1.06	2.72	2.50	5.28	28.97
1941	3.47	2.10	1.20	1.82	3.67	.98	.50	2.69	3.75	3.08	4.36	4.55	32.17
1942	1.30	1.15	2.15	2.41	2.12	4.45	2.53	.20	.35	1.73	5.56	5.55	29.50
1943	1.45	2.94	2.51	2.41	1.56	1.22	1.69	2.16	1.03	4.26	1.01	3.98	26.22
1944	2.29	1.43	1.20	2.44	1.26	1.64	.01	.79	1.56	2.28	4.47	2.10	21.47
1945	5.20	2.59	3.92	2.48	2.06	.52	.16	.38	3.00	6.97	5.56	3.60	36.44
1946	4.09	2.95	3.82	2.71	.28	3.83	.83	.45	1.45	3.04	2.23	3.80	29.48
1947	5.48	2.86	3.63	2.26	1.05	2.55	.09	.46	1.52	5.94	4.35	4.96	35.15
1948	3.19	4.82	1.61	1.14	4.13	2.21	1.44	3.55	2.27	2.66	4.78	3.18	34.98
1949	.58	3.92	2.53	1.56	.46	1.45	1.43	.70	2.06	3.51	4.97	7.37	30.54
1950	3.14*	5.40	5.12	3.95	1.77	.33	1.05	2.68	.74	4.80	4.86	5.26	39.10
1951	5.00	5.77	3.59	1.09	2.62	.22	.08	.39	1.47	4.48	2.78	3.44	30.93
1952	1.97	2.24	2.48	2.44	2.75	1.99	.57	.32	.88	1.85	1.05	2.59	21.13
1953	7.99	2.73	2.59	2.12	1.45	2.02	.81	.89	2.08	4.56	6.54	6.62	40.40
1954	5.84	2.77	1.46	2.37	1.17	1.98	1.49	2.32	1.20	1.51	8.05	3.41	33.57
1955	2.67	3.82	2.13	2.40	2.71	1.94	1.77	.27	1.15	4.52	6.69	5.57	35.64
1956	4.78	2.36	3.22	.48	.84	4.55	.14	1.36	3.32	5.69	2.62	5.96	35.32
1957	2.17	3.07	4.78	2.59	.72	1.65	1.97	.69	.92	2.55	1.91	3.53	26.55

* CAA data

STATION HISTORY

Weather records have been kept at several locations in the Bellingham area. The first records were kept at the Fort Bellingham Post Hospital from June 1857 - July 1859. Very little information is available regarding the exact location of some of the early stations. Weather records have been kept by the following observers: Lewis Mayhew, June 1895 - May 1903; Sanford Mayhew, June 1903 - December 1913; Bellingham Herald, January 1929 - 1938; Weather Bureau 1938 - 1941; Civil Aeronautics Administration, 1941 - date.

Climatological data used in this summary was recorded at the present Weather Bureau climatological station which was established at the U. S. Bureau of Plant Industries station located two miles north of the Bellingham Post Office on September 9, 1910. A continuous climatological record has been maintained at this location since the station was established. The equipment was relocated 700 feet northwest of the original installation on March 1, 1943. The station was operated by the U. S. Bureau of Plant Industries from 1910 - 1917; U. S. Soil Conservation Service from 1917-1954 and by the Washington State Department of Agriculture from 1954 to date. The weather observations were either made by or were under the supervision of Mr. H. E. Jenemann from September 1910 to February 1924; Mr. B. L. Peters, March 1924 to October 1952; Mr. B. R. Lausch, November 1952 to February 1954; Mr. M. N. Oosewaarde, March 1954 to August 1954, and Mr. R. C. Holland, September 1954 to date.

Minimum temperatures recorded at this location are slightly lower than those recorded in the downtown business district.

PROBABILITY OF 32°, 28° AND 24° OCCURRING AS LATE IN THE SPRING OR AS EARLY IN THE FALL AS THE DATES LISTED IN THE FOLLOWING TABLES

	PROBABILITY OR LIKELIHOOD - SPRING MONTHS				PROBABILITY OR LIKELIHOOD - FALL MONTHS			
	75%	50%	30%	10%	10%	30%	50%	75%
32°	May 6	May 16	May 24	June 4	Sept. 10	Sept. 23	Oct. 1	Oct. 12
28°	Apr. 5	Apr. 15	Apr. 23	May 4	Oct. 2	Oct. 14	Oct. 22	Nov. 3
24°	Mar. 7	Mar. 18	Mar. 26	Apr. 6	Oct. 23	Nov. 5	Nov. 13	Nov. 24

In the above table, the 50 percent point is the same as the average for each freeze category.

From a statistical viewpoint based on past data, the probabilities could be considered as follows when converted into the number of occurrences to expect in a 40-year period:

75% - 30 years in 40 30% - 12 years in 40

50% - 20 years in 40 10% - 4 years in 40