

WEATHER DATA COMPARISON BETWEEN  
CARIBOO COLLEGE WEATHER STATION AND  
KAMLOOPS WEATHER STATION

(Summer of 1980)

Dean Fortin



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1980

Weather data comparison  
between Cariboo College  
weather station and Kamloops  
weather station (summer of 1980)

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WEATHER DATA COMPARISON BETWEEN  
CARIBOO COLLEGE WEATHER STATION AND  
KAMLOOPS WEATHER STATION

(Summer of 1980)

by

DEAN FORTIN

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## INTRODUCTION

For years, the only functioning weather data gathering centre for Kamloops has been located at the airport. As there has been considerable expansion into the southwest sector of Kamloops, there has become a need to provide weather data services for this region of town, as the south-west sector is topographically very different from the flat area about the airport.

With a fully functional weather station available at Cariboo College, the ability to obtain comparative data between the two stations is possible. However, up to this point the college weather station has been used primarily for educational purposes as money for manpower for full operations has not been available to the college.

In May of 1980 a summer student work project was started, with the purpose of providing a study involving the two weather stations, and conducting a comparison of the data obtained at each. The study ran for three months, and employed one researcher. The instruments at Cariboo College were calibrated by an Environment Canada Official at the beginning of the study to control for accuracy and the instruments were maintained by the researcher.

This study is not intended to come to any definite conclusions but rather to provide indications of trends and possible results, and possibly provide a basis for further studies.

## PROCEDURE

### DATA:

The data for this summer weather comparison was obtained from the Monthly Meteorological Summary, Fulton Field ( Kamloops Weather Station), issued each month by Environment Canada, and data collected from the Cariboo College weather station for the months of May, June, and July.

The data that was gathered and compared in this study includes:

- 1) mAximum Temperature at Cariboo College vs. mAximum Temperature at Kamloops Weather Station ( ATCC vs. ATKWS);
- 2) mInimum Temperature at Cariboo College vs. mInimum Temperature at Kamloops Weather Station ( ITCC vs. ITKWS);
- 3) Mean Temperature Cariboo College vs. Mean Temperature at Kamloops Weather Station ( MTCC vs. MTKWS);
- 4) Range in Temperature at Cariboo College vs. Range in Temperature at Kamloops Weather Station ( RTCC vs. RTKWS);
- 5) mAximum Relative Humidity at Cariboo College vs. mAximum Relative Humidity at Kamloops Weather station ( ARHCC vs. ARHKW);
- 6) mInimum Relative Humidity at Cariboo College vs. mInimum Relative Humidity at Kamloops Weather station ( IRHCC vs. IRHKW);
- 7) mAximum Absolute Humidity at Cariboo College vs. mAximum Absolute Humidity at Kamloops Weather station ( AAHCC vs. AAHKW);
- 8) mInimum Absolute Humidity at Cariboo College vs. mInimum Absolute Humidity at Kamloops Weather station ( IAHCC vs. IAHKW);

Note: All the above information about Cariboo College was obtained from the hydrothermograph charts, or calculated from data obtained from those charts.

- 9) Total Precipitation at Cariboo College vs. Total Precipitation at Kamloops Weather Station ( TPCC vs. TPKWS);

Note: The data for total precipitation at Cariboo College was gathered from both the tipping rain gauge and, when possible, the graduated rain gauge. When rain fell on a weekend or holiday, only the tipping bucket was used and as such, the readings would not be completely accurate, as the bucket is calibrated to tip at every .25 mm so that small amounts of rainfall would not be recorded.

- 10) Daily Wind at Cariboo College vs. Daily Wind at Kamloops Weather Station ( DWCC vs. DWKWS);

Note: The data for daily wind at Cariboo College was computed by taking

a mean of the accumulated readings each hour of the day, every day, from the anemograph. This is assumed to be a reasonable comparison as Kamloops Weather Station calculates their daily wind by taking a one minute mean of wind speed each hour.

- 11) mAXimum Wind Direction at Cariboo College vs. mAXimum Wind Direction at Kamloops Weather station ( AWDCC vs. AWDKW);
- 12) mAXimum Wind at Cariboo College vs. mAXimum Wind at Kamloops Weather Station ( AWCC vs. AWKWS);

Note: The above information was obtained from the anemograph at Cariboo College.

- 13) Prevailing Wind Direction at Cariboo College vs. Prevailing Wind Direction at Kamloops Weather station ( PWDCC vs. PWDKW);

Note: To obtain the necessary data for prevailing wind direction for the two weather stations, wind roses were constructed and from these the direction the wind blew the most ( or the highest %) was used to indicate the prevailing wind direction.

#### TESTING:

Once the data was collected and recorded an individual computer run was conducted on each month, and then all the data was run together. The data was run under the Statistical Package for the Social Sciences (SPSS) computer package available from Simon Fraser University through the terminal at Cariboo College. The tests and programs run on the data included frequency distributions, tests of data normality, T-Tests for matched pairs, and correlation analysis.

The section of the run entitled FREQUENCIES provided frequency distributions; the mean, mode, and median; the skewness and kurtosis; and other statistics. The program titled T-TEST provided a matrix of all the matched pairs and the calculated value of t: the programs PEARSON CORR, NONPARR CORR, and SCATTERGRAM, provided correlation coefficients, intercepts, slopes, and visual graphs of the relationships between the variables.

The results of the tests were recorded and each month's data was graphed. For a complete breakdown of the computer print-out on the data, refer to appendix #2: for an explanation of the terms used to describe the testing, refer to index #1.

## RESULTS OF TESTING

The results shown here will be monthly means and the summer mean, although with wind direction and speed the modes will be used as they are the better indicators for the purposes of comparison. For the complete results of testing, refer to index #2.

	ATCC	vs.	ATKWS	°C		ITCC	vs.	ITKWS
May	20.56		21.07		May	10.34		9.84
June	22.70		22.73		June	11.37		11.09
July	26.91		28.03		July	13.52		12.79
Ave.	23.52		24.43		Ave.	11.81		11.30

Kamloops Weather Station consistently exceeds Cariboo College in mean maximum temperatures. The differences in the two stations were significant each month and in the final summery.

Cariboo College consistently recorded the highest mean minimum temperatures each month, but except for July and the summer average, the differences were not significant.

	MTCC	vs.	MTKWS	°C		RTCC	vs.	RTKWS
May	15.47		15.48		May	10.03		11.23
June	17.06		17.42		June	11.36		12.64
July	20.23		20.51		July	13.35		15.16
Ave.	17.69		17.91		Ave.	11.65		13.09

Kamloops Weather Station, reflecting the greater differences in maximum daily temperature, significantly, if not dramatically, exceeds Cariboo College in daily mean temperature.

Kamloops Weather Station, again reflecting the greater daily maximum temperature and the similar daily lows, continuously and significantly exceeds Cariboo College in daily mean range in temperatures.

	ARHCC	vs.	ARHKW	%		IRHCC	vs.	IRHKW
May	87.77		76.51		May	42.81		33.55
June	91.10		80.46		June	38.06		34.46
July	85.84		77.45		July	33.51		28.16
Ave.	88.22		78.19		Ave.	37.92		32.88

Cariboo College, on average, recieves a higher daily maximum relative humidity than Kamloops Weather Station. The differences were all significant for all tests.

Cariboo College records a significantly higher minimum relative humidity than Kamloops Weather Station for all three months.

	AARCC	vs.	AAHKW
May	8.40		7.10
June	9.70		8.11
July	10.02		8.72
Ave.	9.41		8.02

g.m.<sup>3</sup>

	IAHCC	vs.	IAHKW
May	7.44		6.53
June	7.66		7.13
July	8.29		7.46
Ave.	7.81		7.06

Cariboo College records a higher average maximum absolute humidity than Kamloops Weather Station. The differences for all three months are significant.

Cariboo College receives a significantly higher minimum absolute humidity than Kamloops Weather Station.

	TPCC	vs.	TPKWS
May	59.6		45.3
June	52.5		69.0
July	26.3		19.4
Ave.	46.1		44.6

m.m.

Cariboo College received more rain in two of the three months that data was gathered. Because of the amount of days that there was no rain, the T-Test of significance can not be relevant to the testing.

	DWCC	vs.	DWKWS
May	16.04		12.43
June	12.33		9.09
July	12.67		8.38
Ave.	13.62		9.87

k.m.

	AWCC	vs.	AWKWS
May	47.85		31.22
June	44.80		28.40
July	42.79		24.77
Ave.	45.08		27.98

Cariboo College records a significantly higher amount of daily wind each month than Kamloops Weather Station.

Cariboo College receives stronger winds each day than Kamloops Weather Station: this statistic is significant and consistent for all three months and for the summer average.

	AWDCC	vs.	AWDKW
May	180		290
June	180		112
July	360		225
Ave.	180		290

in °

	PWDCC	vs.	PWDKW
May	190.0		276.0
June	195.0		272.5
July	65.0		105.0
Ave.	178.5		169.8

Cariboo College receives its strongest winds more often from the north whereas Kamloops Weather Station receives its strongest winds from the east.

Because of the amount of calm days the mode, the best indicator of prevailing wind direction, could not be used to analyze the data: therefore, the median was used but it does not realistically reflect the true differences in the data and the two weather stations.



## INTERPRETATION OF DATA

### TEMPERATURE:

The temperature differences between the two stations could possibly be due to two factors; first, the differences in elevation and topography, and secondly, the differing thermal properties of the surrounding surfaces.

In regards to elevation, Cariboo College is at a higher elevation than Kamloops Weather Station ( 500 ft. difference): because it takes longer to heat the atmosphere at higher levels of elevation, it is reasonable to assume Cariboo College to be colder during the day. The night time effect of elevation is directly opposite that of the day. The slopes of the valley allow cold air to slip down and settle into the valley, such that it is reasonable to expect that Kamloops Weather Station would be cooler than Cariboo College during the evening and early morning.

The second consideration involves the impact of a heat island and urbanization. Kamloops Weather Station is situated at an airport - which is notorious for re-radiation of heat- and surrounded by pavement, public buildings, and cars. This urban environment causes higher ground temperatures for two reasons. First, foliage of plants are absent so that the full quantity of solar energy falls upon the bare ground. Absence of foliage also means absence of transpiration, which else where produces a cooling of the lower air level.

A second factor is that roofs and pavements of concrete and asphalt hold no moisture so that evaporation cooling cannot occur as it would from a moist soil. This, coupled with the fact that the Kamloops Weather Station is surrounded by a parking lot and warm-motor automobiles, would lead to the assumption that Kamloops Weather Station would record higher daily temperatures.

The urban heat island effect seems to offset the night time effect of the altitude difference in the two stations, such that there is little difference in daily minimum temperatures. But, the difference in daily maximum temperatures would account for the differences in daily mean temperatures and in daily range in temperatures.

### HUMIDITY:

With the realization of the effect of the heat island and urbanization on Kamloops Weather Station, one can carry the effect over from thermal properties to hydrological factors of evaporation and transpiration. But it should be stated at the outset that the differences between the two stations in relative and absolute humidity could be due to the using of two differing systems of measurement of relative humidity, which would then affect the calculation of absolute humidity. Cariboo College depends upon the hydrothermograph where as Kamloops weather station uses a Dewcel dry bulb-wet bulb system. Still, studies have shown a 8% difference between rural and urban areas, which coincide somewhat with the data.

### RAINFALL:

The comparison of precipitation between Cariboo College and Kamloops Weather Station poses a problem because of lack of data. The results of this three month study are inconclusive not only because of the amount days without rain, but also because of the relatively short length of the study: to provide any definite conclusion, a two to five year study would be mandatory. A short study is inadequate, especially in the summer, because of the amount of convective activity: a long term study would balance out the infrequent localized rainfall, leaving only generalities for comparison.

It is hard to come to any definite conclusion with the data collected as it is hard to predict which way the balance would go because of differing factors and effects. A study by R.W. Longley concluded that precipitation in the valleys of Saskatchewan and Alberta is 10 to 20% below the amount falling on the level land on either side of the valley. Studies of urban heat island effects on precipitation have shown urbanized areas receiving 5 to 10% more rain than rural areas. And finally, with Cariboo College being on a north facing, exposed slope, one has to consider the orographic effect. So, without further study, a probable conclusion can not be put forward.

### WIND:

As expected at the beginning of the study, Cariboo College received more daily wind than Kamloops Weather Station, and stronger gusts. The differences in the two stations data can be attributed to the topographic locations: Cariboo College is on an exposed slope and Kamloops Weather Station is on a flat river bed in the valley.

It was the direction of the peak gusts and the prevailing wind direction that were uncertain: often the smoke stack from the pulp mill, situated half way up the valley wall, would be blowing up the valley, whereas the steam off the plant in the valley would be flowing down stream.

By analyzing the wind roses constructed, a reasonable comparison of the two levels was available: and the wind roses clearly illustrate the effect of the valley on wind direction. When the hill most often recorded winds from the north or south, the valley station recorded winds from 30 to 40 degrees different- a north-west wind, or a south-east wind, etc. Only when the winds blew with the lay of the valley would the two stations record similar directions. Obviously, the walls of the valley twist and blunt the winds, causing the differences in the two stations.

## CONCLUSION

It should be noted that through out this report no definite conclusions were presented, nor any data professed to be conclusive. Only a long term study could arrive at the point where such statements could be made, and in many cases, only a long term study could provide an indication of possible results in many of the variables being compared.

Another method of improving the study would be to employ an extra researcher or make an arrangement with the night security guard at the college, for the purpose of a night worker. Not only would this help to provide more accurate data, like rainfall, but it would allow one to expand the study to include other variables. For example, the hours of bright sunlight was at one time thought to be included in this study, but it was dropped because of inadequate data. The data was insufficient for comparison as only 3 records could be kept for each week, or 7 days; and that is a week without holidays or long weekends: the May comparison had only 11 out of 31 valid readings.

In all though, this study may prove useful; as an example to others wishing to conduct a simular study; or as an indicator of the differences possible, in climate, in a local area. And finally, this paper may be of some use to builders or home buyers wishing to know of the differences in climate between the valley and the hill, especially as further development continues in Sahali and Aberdeen.

De Forti

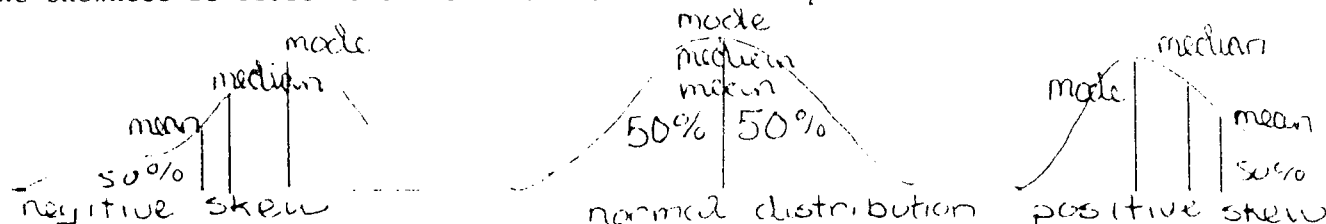
## INDEX 1

**MEAN:** The arithmetic mean, or average, is found by adding together all the values under consideration and dividing the total by the number of variables. The mean is not a good indication of the average value when there is a small sample size that includes one or two wild or unusual values.

**MEDIAN:** The median is a term used for the central value in a series of ranked values. If there is an odd number of ranks, the value of the median is that of the central rank. If there is an even number of ranks, the median value is the mid point between the two central ranks. The median is the best indicator of the average value if there are wild variables.

**MODE:** The modal class or value is that interval which has the greatest frequency, or occurs most often. With a large sample size, it is a good indicator of what value to expect from a certain population. When a distribution is normal or parametric, the mode, median, and mean will have the same value.

**SKEWNESS:** Skewness ( $\beta_1$ ) is the degree of asymmetry or inequality, in a distribution, and measures the degree to which the mean, mode, and median differ. If the skewness is close to 0 then the distribution is parametric.



**KURTOSIS:** Kurtosis ( $\beta_2$ ) is the extent of peaking; if the kurtosis is around +3, then the distribution is normal or parametric.

**T-TEST:** The T-Test is used to determine the significance of the difference between two groups of data, in this case the data obtained from Cariboo College and Kamloops Weather Station. The test is based on the comparison of two sample means - for example maximum temperature at Cariboo College vs. maximum temperature at Kamloops Weather Station - and from this comparison one can make inferences on the difference in two populations, or Weather stations. If the tests indicate a significant difference, this then indicates a real difference in the variables indicated and thus the stations.

So, for example, the difference of means between ATCC and ATKWS is significant as  $T\text{-crit} = 2.82$  and  $T\text{-cal} = -5.95$ . If  $T\text{-cal}$  exceeds  $T\text{-crit}$  then one rejects the null hypothesis, which states that there is no significant difference, and accepts the prime hypothesis, which states that there is a real difference, in the populations, that is not due to chance or any other extenuating circumstance.

The critical value for the test run on the data was calculated at  $p = .01$ , or the probability that the differences in the two variables was due to chance is 100 to 1.

**SCATTERGRAM:** A scattergram is just a graphic representation of correlation, although it does provide the slope of the line and the intercept value at the origin.

**CORRELATION:** Correlation is an attempt to describe a relationship or an association between two variables. By association one means that the fluctuations in the values for each variable were sufficiently matched to make it

## INDEX 1 CON'T

unlikely that this was a chance association. Correlation in statistics is a method whereby a co-efficient is calculated to describe the degree of association between two sets of paired values.

Correlation may be termed perfect and positive if one variate increases in precisely the same proportion as the other. This will have a value of 1.00. If there is no relationship then the co-efficient is 0.00 and is called random. Correlation is termed perfect and negative if one variable decreases in the same proportion as the other increases, and has a value of -1.00. For our purposes, we are looking for differences between the two stations, such that we can account for the differences through the locations of the stations; thus we are looking for a low correlation Co-efficient.

NONPARR CORR: The Pearsons Correlation Co-efficient is a parametric test for normally distributed data, and as such has certain restrictions that have to be met if the co-efficient is to be accurate. If these restrictions are not met - normal distribution where skewness = 0 and kurtosis = 3 - then a non-parametric test, like the Spearmans, is better suited as it does not have to meet those restrictions.

INDEX #2

DATA AND GRAPHS OF  
MAY, JUNE, AND JULY  
( including summer summery)



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## SUMMER SUMMERY

MAY - July inclusive 1980

	ATCC	ATKWS / ITCC	ITKWS / MTCC	MTKWS / RTCC	RTKWS / ARHCC	ARHKW
MEAN	23.52	24.43 / 11.81	11.30 / 17.69	17.91 / 11.65	13.09 / 88.22	78.19
MODE	23.00	24.00 / 10.00	10.40 / 16.50	16.40 / 7.00	10.30 / 100.00	82.00
MEDIAN	23.02	23.80 / 11.45	11.10 / 17.35	17.55 / 11.05	11.95 / 92.50	81.61
RANGE	23.00	23.50 / 13.00	12.80 / 16.60	16.00 / 18.90	19.00 / 41.00	55.00
KURTOSIS	-0.72	-0.70 / -0.08	0.43 / -0.48	-0.19 / -0.42	-1.01 / -0.58	-0.58
SKEWNESS	0.19	0.20 / 0.46	0.14 / 0.39	0.42 / 0.21	0.07 / -0.75	0.02
T-CRIT	2.00	/	2.00	/	2.00	/
T-CAL	-8.17	/	3.15	/	-7.74	/
P. CORR	0.97	/	0.82	/	0.98	/
S. CORR	0.97	/	0.84	/	0.95	/
INTERCEPT	-0.98	/	0.69	/	-1.53	/
SLOPE	1.00	/	0.98	/	1.07	/

	IRHCC	IRHKW / AAHCC	AAHKWS / IAHCC	IAHKW / TPCC	TPKWS / DWCC	DWKWS
MEAN	37.92	32.88 / 9.41	8.02 / 7.81	7.06 / 1.57	1.50 / 13.62	9.87
MODE	28.00	23.00 / 8.50	7.30 / 7.20	6.70 / 0.00	0.00 / 12.60	5.50
MEDIAN	36.50	32.75 / 9.25	7.85 / 7.70	6.97 / 0.04	0.05 / 12.50	8.30
RANGE	55.00	56.00 / 9.30	6.90 / 8.40	7.20 / 11.30	16.70 / 40.30	24.40
KURTOSIS	0.37	0.45 / 1.23	-0.07 / 0.91	-0.30 / 4.26	12.45 / 2.10	2.27
SKEWNESS	0.72	0.69 / 0.65	0.22 / 0.68	0.01 / 2.17	2.97 / 1.23	1.47
T-CRIT	2.00	/	2.00	/	2.00	/
T-CAL	9.09	/	10.84	/	5.22	/
P. CORR	0.86	/	0.69	/	0.57	/
S. CORR	0.86	/	0.67	/	0.51	/
INTERCEPT	9.28	/	3.35	/	3.43	/
SLOPE	0.87	/	0.75	/	0.62	/

	AWDCC	AWDKW / AWCC	AWKWS / PWDCC	PWDKW
MEAN	212.67	206.87 / 45.08	27.98 / 159.82	169.86
MODE	180.00	290.00 / 47.00	24.00 / 0.00	0.00
MEDIAN	195.00	230.00 / 45.25	27.61 / 178.54	136.00
RANGE	340.00	315.00 / 68.00	52.00 / 360.00	320.00
KURTOSIS	-0.42	-0.52 / 0.75	1.01 / -1.33	-1.46
SKEWNESS	-0.27	-0.83 / 0.32	0.66 / 0.17	-0.26
T-CRIT	2.00	/	2.00	/
T-CAL	0.35	/	19.13	/
P. CORR	0.48	/	0.76	/
S. CORR	0.44	/	0.72	/
INTERCEPT	107.51	/	18.27	/
SLOPE	0.50	/	0.95	/



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## STATISTICS

DATE	ATCC	ATKWS
01		
02		
03		
04		
05	33.5	32.1
06	23.0	22.7
07	25.0	24.6
08	19.0	20.2
09	18.0	19.0
10	23.0	24.5
11	29.0	26.3
12	19.0	18.4
13	20.5	19.6
14	20.0	20.0
15	17.0	17.5
16	26.0	25.8
17	22.5	22.5
18	21.8	23.0
19	19.0	20.3
20	23.0	24.0
21	23.7	23.4
22	18.4	18.6
23	16.0	16.9
24	13.0	14.4
25	16.5	18.5
26	20.0	19.4
27	15.5	18.6
28	18.0	19.7
29	18.3	20.6
30	20.0	21.5
31	16.5	17.0

ATCC		ATKWS	
mean	20.56	mean	21.07
mode	19.00	mode	18.60
median	19.96	median	20.20
range	20.5	range	17.70
kurtosis	1.80	kurtosis	1.82
skewness	1.07	skewness	.97

### T-TEST FOR MATCHED PAIRS

t-crit = 2.05  
t-cal = -2.15

### PEARSONS CORRELATION

corr. coefficient = 0.96

### SPEARMANS CORRELATION

corr. coefficient = 0.91

### SCATTERGRAM

intercept = -3.89 slope = 1.16

### COMMENTS:

Kamloops Weather Station records significantly higher maximum temp. than Cariboo College. There is good correlation between the two variables.



# Maximum Temp. Cariboo College Vs. Max Temp. Kamloops

35

30

25

20

15

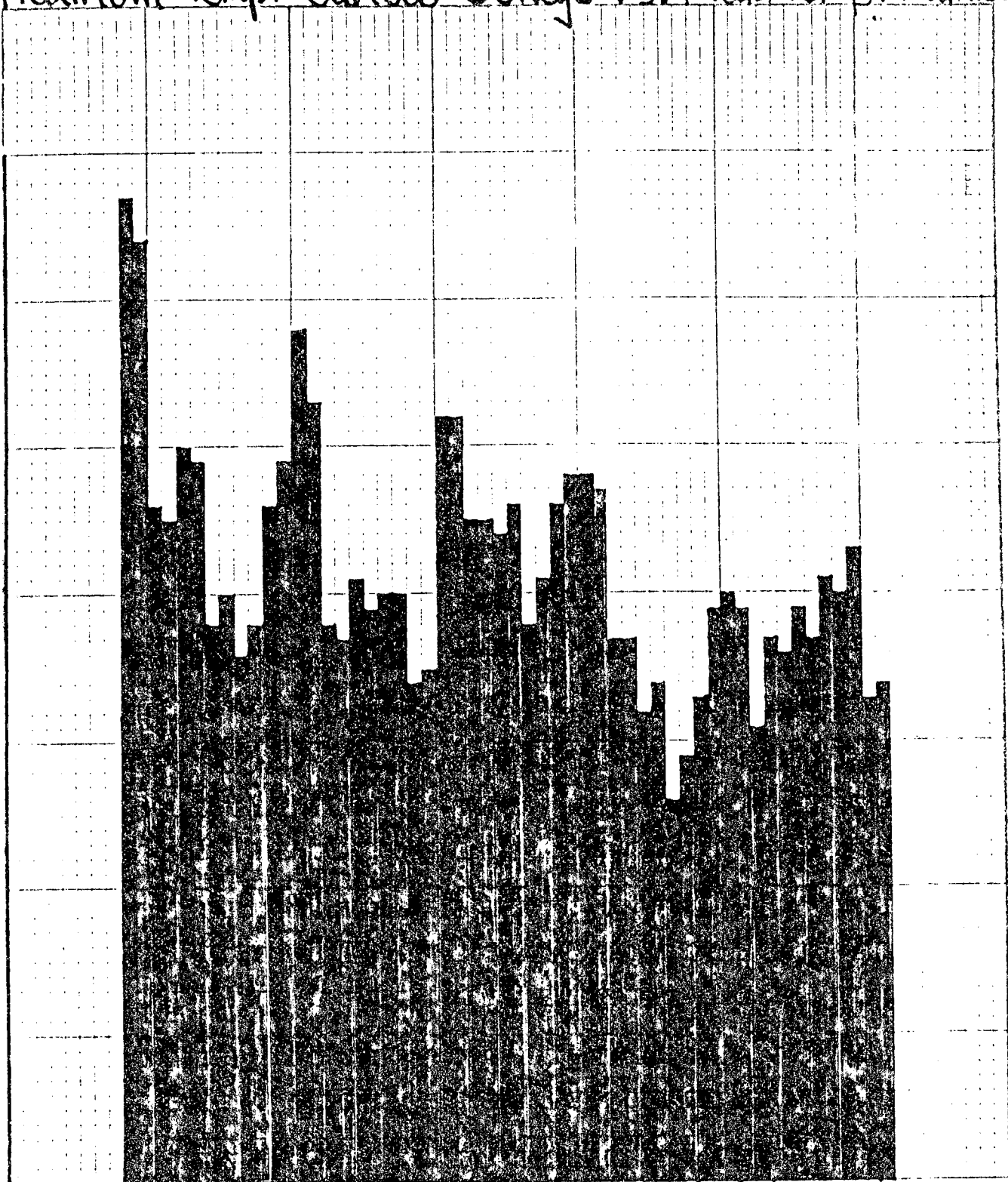
10

5

0

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Month of May (Date)





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DATE	ITCC	ITKWS
01		
02		
03		
04		
05	15.0	10.1
06	13.0	12.4
07	9.0	6.0
08	11.8	9.0
09	10.0	10.4
10	8.7	8.3
11	9.0	8.5
12	10.0	10.0
13	11.5	11.3
14	9.8	9.4
15	8.5	9.1
16	6.5	5.3
17	10.5	10.5
18	10.0	7.7
19	12.0	13.1
20	11.0	11.0
21	14.0	13.0
22	11.6	11.0
23	8.6	8.6
24	10.7	11.4
25	10.0	10.4
26	11.0	11.0
27	10.0	10.7
28	11.0	10.2
29	10.0	10.3
30	9.0	10.4
31	7.0	6.7

ITCC		ITKWS	
mean	10.34	mean	9.84
mode	10.00	mode	10.40
median	10.02	median	10.30
range	8.50	range	7.80
kurtosis	0.79	kurtosis	0.42
skewness	0.39	skewness	-0.62

### T-TEST FOR MATCHED PAIRS

t-crit = 2.05  
t-cal = 1.86

### PEARSONS CORRELATION

corr. coefficient = 0.73

### SPEARMANS CORRELATION

corr. coefficient = 0.73

### SCATTERGRAM

intercept = 3.14    slope = .73

### COMMENTS:

The valley receives lower minimum temperatures than the hill, but the difference is not significant.

# Minimum Temp. Cariboo College Vs. Min. Temp. Kamloops

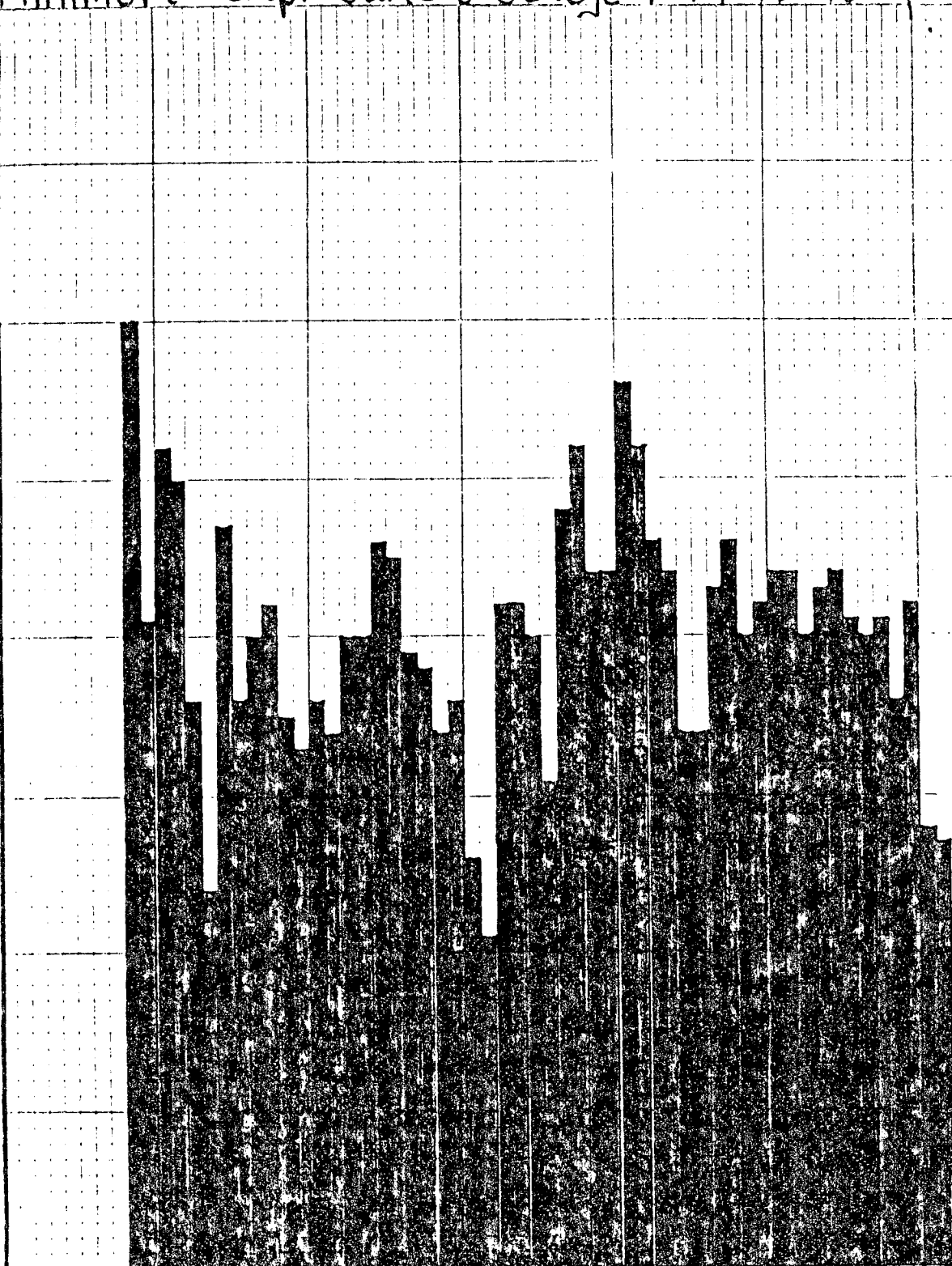
10°

15°

10°

5°

0°



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Month of May (Date)



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## STATISTICS

DATE	MTCC	MTKWS
01		
02		
03		
04		
05	24.3	21.1
06	18.0	17.6
07	17.0	15.3
08	15.4	14.6
09	14.0	14.7
10	15.9	16.4
11	19.0	17.4
12	14.5	14.2
13	16.5	15.5
14	14.9	14.7
15	12.8	13.3
16	16.3	15.6
17	16.5	16.5
18	15.9	15.4
19	15.5	16.7
20	17.0	17.5
21	18.9	18.2
22	15.0	14.8
23	12.3	12.8
24	11.9	12.9
25	13.3	14.5
26	15.5	15.2
27	12.2	14.7
28	14.5	15.0
29	14.1	15.5
30	14.5	16.0
31	12.0	11.9

MTCC		MTKWS	
mean	15.47	mean	15.48
mode	14.50	mode	14.70
median	15.40	median	15.30
range	12.40	range	9.20
kurtosis	3.63	kurtosis	1.98
skewness	1.36	skewness	0.79

### T-TEST FOR MATCHED PAIRS

t-crit = 2.05  
t-cal = -3.12

### PEARSONS CORRELATION

corr. coefficient = 0.92

### SPEARMANS CORRELATION

corr. coefficient = 0.85

### SCATTERGRAM

intercept =                      slope =

### COMMENTS:

The daily mean temperatures vary significantly, but on the average for the month, the mean temperatures of the two weather stations are similar.

# Mean Temp. Camboos College Vs. Mean Temp. K.W.S.

C

30°

25°

20°

15°

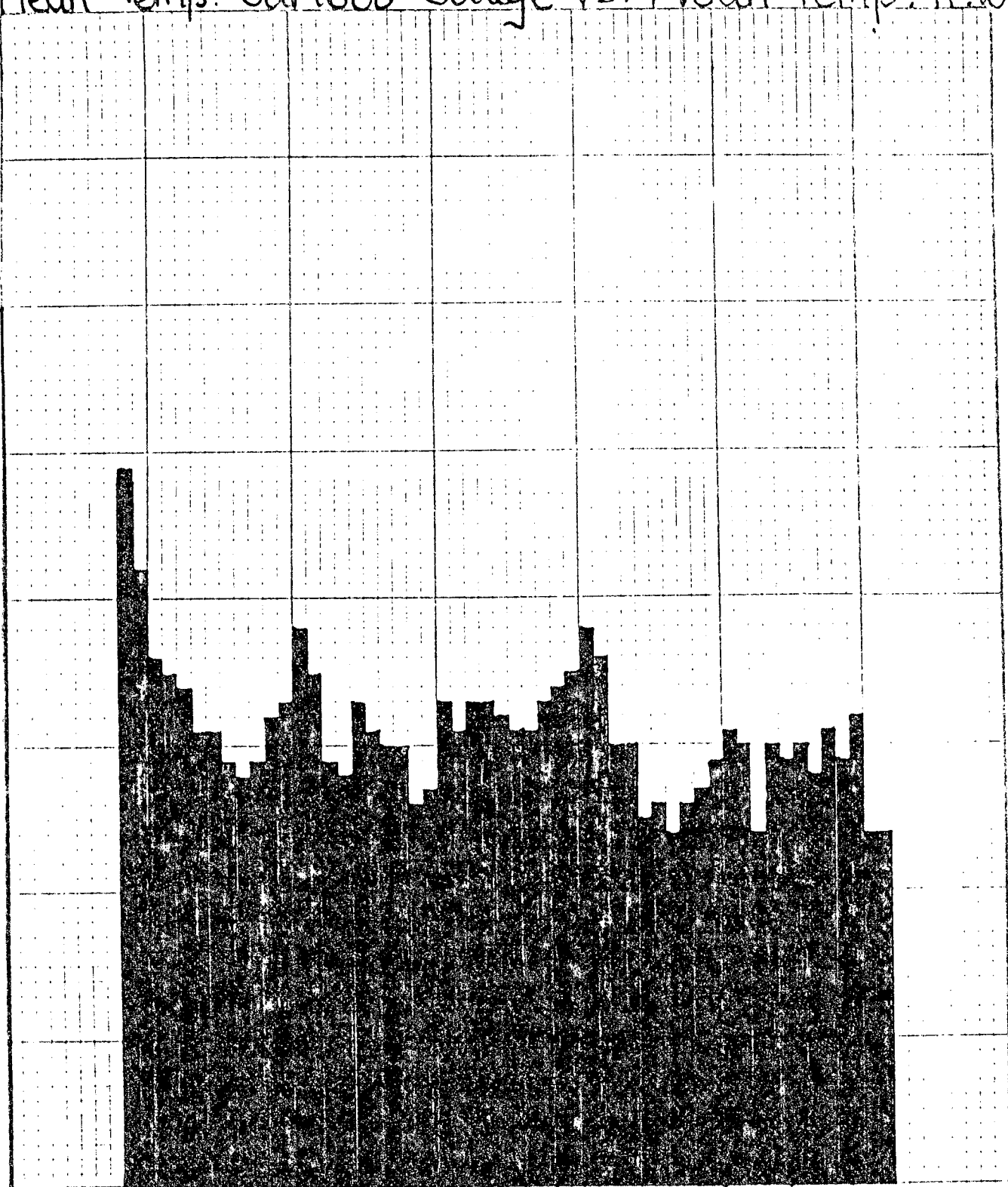
10°

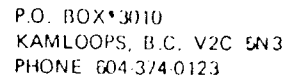
5°

0°

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Month of May (Date)





# Range in Temp. Cariboo College Vs. Range in Temp. KWS

C

30°

25°

20°

15°

10°

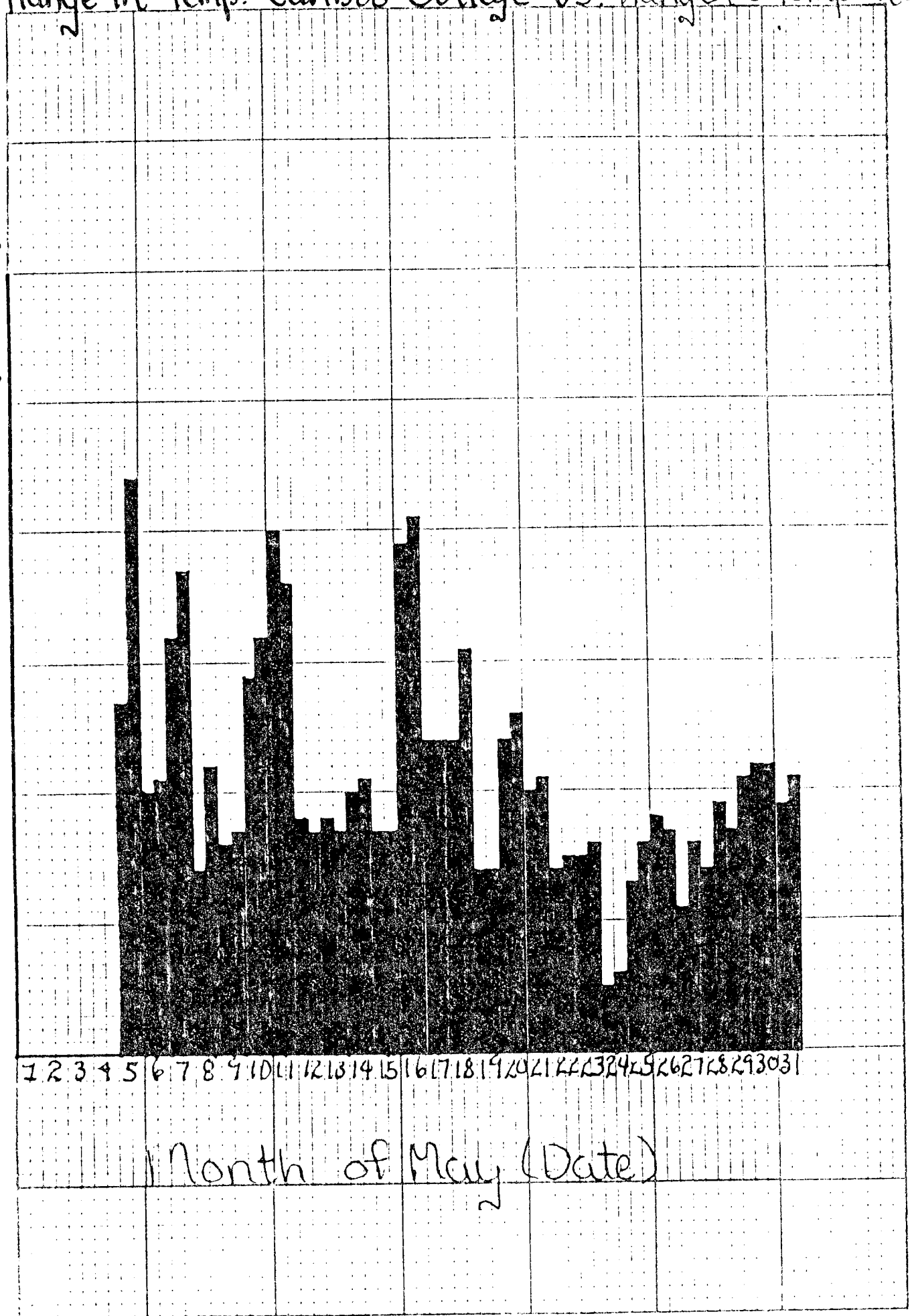
5°

0°

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Month of May (Date)

2





# cariboo college

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## STATISTICS

DATE	ARHCC	ARHKW
01		
02		
03		
04		
05	98	82
06	97	77
07	78	70
08	78	66
09	100	93
10	100	93
11	86	82
12	97	88
13	79	82
14	94	87
15	99	82
16	93	81
17	80	62
18	88	76
19	59	45
20	68	54
21	65	55
22	61	50
23	90	66
24	86	66
25	93	71
26	100	94
27	95	94
28	94	87
29	97	88
30	96	87
31	99	88

ARHCC		ARHKW	
mean	87.77	mean	76.51
mode	97.00	mode	82.00
median	93.25	median	81.62
range	41.00	range	49.00
kurtosis	0.10	kurtosis	-0.51
skewness	-1.09	skewness	-0.71

### T-TEST FOR MATCHED PAIRS

t-crit = 2.05  
t-cal = 9.26

### PEARSONS CORRELATION

corr. coefficient = 0.89

### SPEARMANS CORRELATION

corr. coefficient = 0.85

### SCATTERGRAM

intercept =                      slope =

### COMMENTS:

Cariboo College receives a higher maximum relative humidity than Kamloops Airport, although Kamloops Airport has the greater range.



Max. Rel. Humidity Cariboo College V.S. Max.  
Relative Humidity Kamloops W.S.

100%

90%

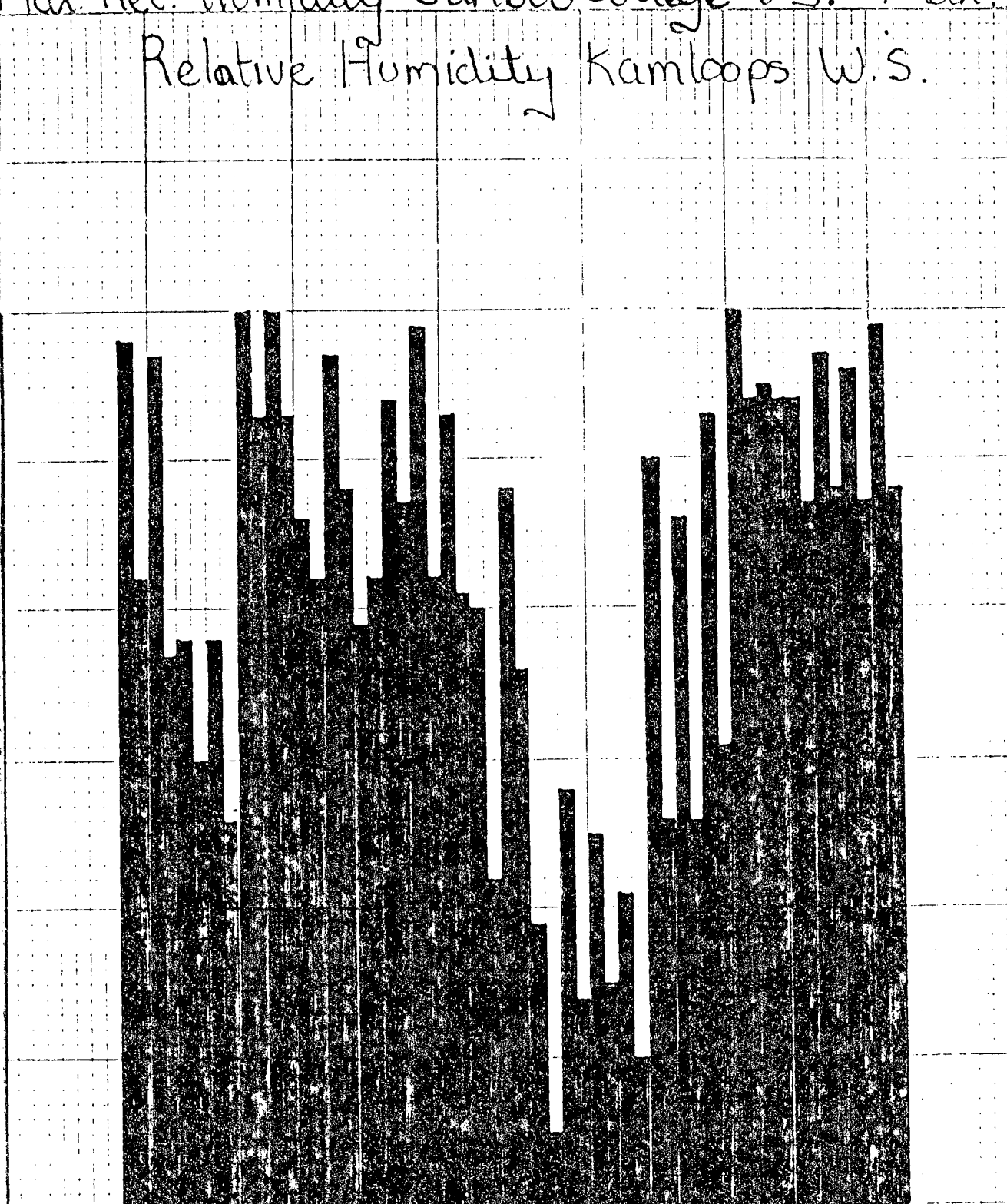
80%

70%

60%

50%

40%



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Month of May (Date)



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## STATISTICS

DATE	IRHCC	IRHKW
01		
02		
03		
04		
05	22	15
06	35	27
07	34	24
08	39	28
09	54	41
10	29	29
11	28	27
12	67	52
13	32	49
14	41	40
15	56	51
16	35	34
17	41	35
18	31	26
19	37	26
20	42	31
21	34	23
22	33	20
23	48	36
24	64	44
25	50	37
26	51	42
27	64	55
28	50	56
29	48	46
30	37	38
31	54	55

IRHCC		IRHKW	
mean	42.81	mean	33.55
mode	34.00	mode	26.00
median	40.75	median	36.00
range	45.00	range	41.00
kurtosis	-0.60	kurtosis	-0.97
skewness	0.44	skewness	0.15

### T-TEST FOR MATCHED PAIRS

t-crit = 2.05  
t-cal = 4.29

### PEARSONS CORRELATION

corr. coefficient = 0.79

### SPEARMANS CORRELATION

corr. coefficient = 0.78

### SCATTERGRAM

intercept =                      slope =

### COMMENTS:

The recorded minimum relative humidity is lower at the airport than the college.

# Min. Rel. Humidity Cariboo College Vs. Min. Rel. Humidity Kamloops Weather Station

70%

60%

50%

40%

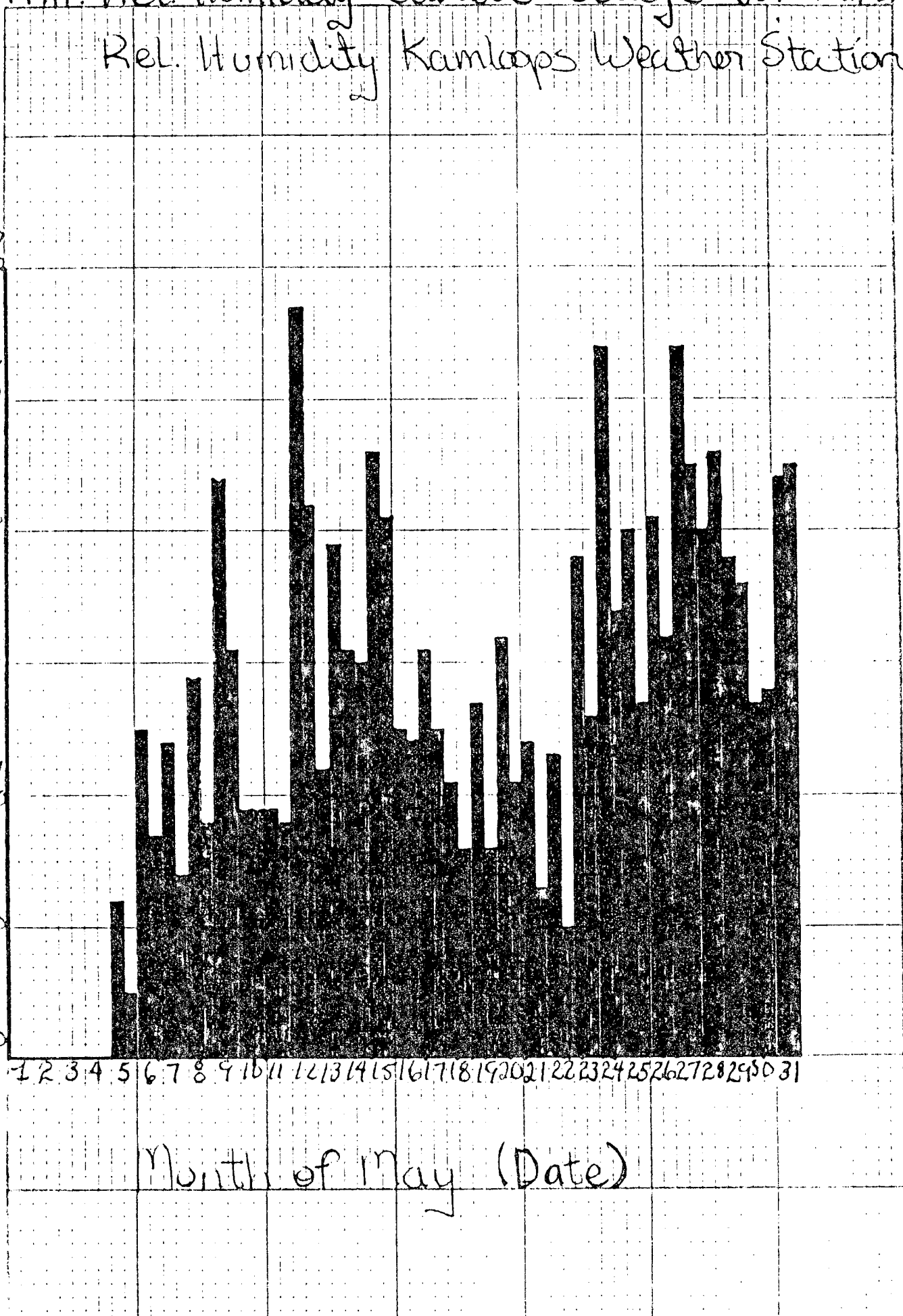
30%

20%

10%

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Month of May (Date)





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## STATISTICS

DATE	AAHCC	AAHKW
01		
02		
03		
04		
05	12.5	7.8
06	11.0	8.4
07	6.8	5.1
08	8.2	5.8
09	9.1	8.9
10	8.6	7.8
11	7.5	7.0
12	9.1	8.3
13	8.1	8.4
14	8.7	7.9
15	8.5	7.3
16	6.9	5.6
17	7.7	6.0
18	8.3	6.2
19	6.2	5.1
20	6.8	5.4
21	7.8	6.2
22	6.3	5.0
23	7.7	5.7
24	8.4	6.8
25	8.7	6.8
26	10.0	9.4
27	8.9	9.2
28	9.4	8.3
29	9.2	8.4
30	8.5	8.4
31	7.7	6.7

AAHCC	AAHKW
mean	8.40
mode	7.70
median	8.40
range	6.30
kurtosis	2.03
skewness	0.95

AAHKW	
mean	7.10
mode	8.40
median	7.00
range	4.40
kurtosis	-1.30
skewness	-0.02

### T-TEST FOR MATCHED PAIRS

t-crit = 2.05  
t-cal = 6.74

### PEARSONS CORRELATION

corr. coefficient = 0.73

### SPEARMANS CORRELATION

corr. coefficient = 0.83

### SCATTERGRAM

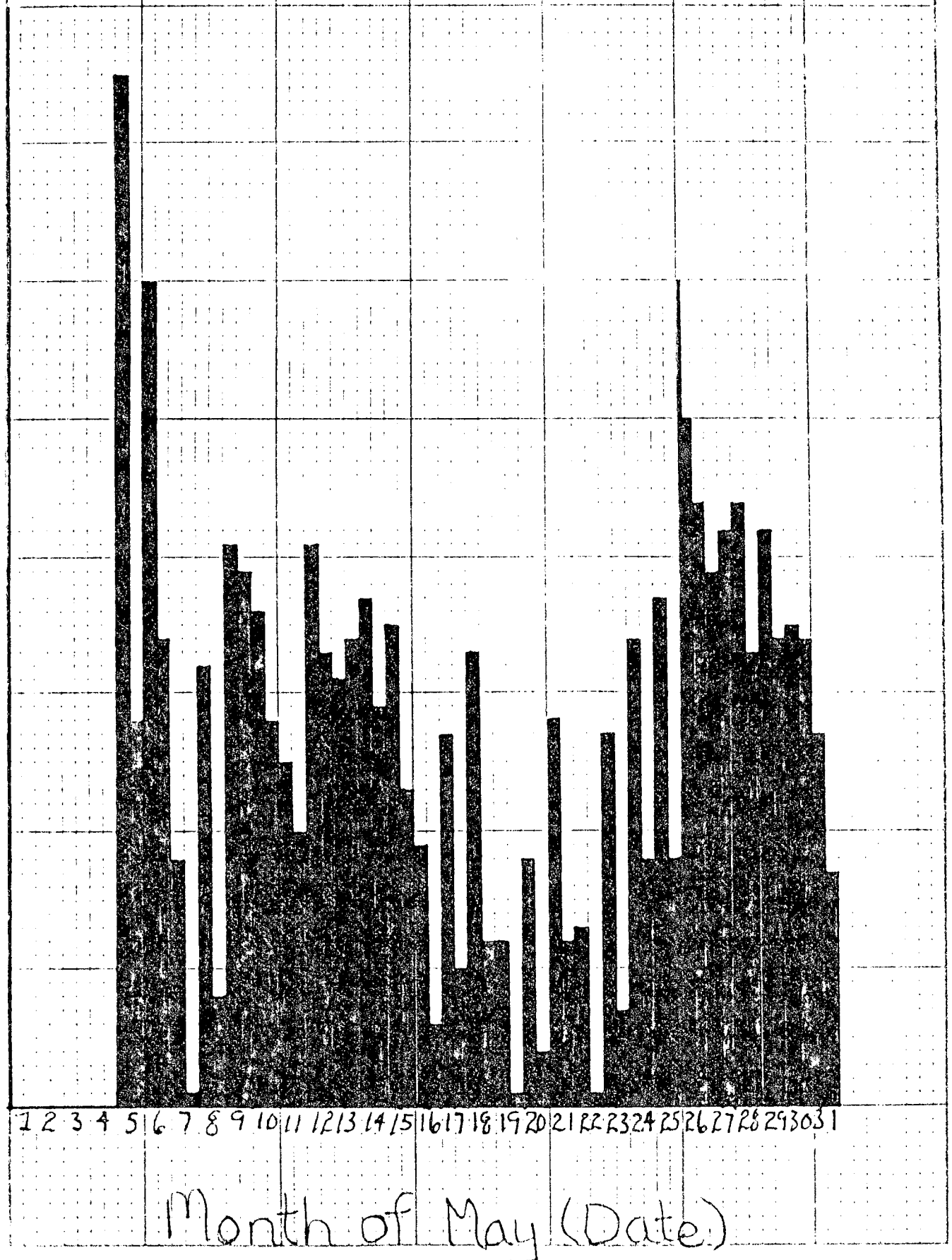
intercept =                      slope =

### COMMENTS:

Cariboo College indicates a higher absolute humidity than Kamloops Weather Station.

Max. Absolute Humidity Cambo College Us.

Max. Absolute Humidity Kamloops Weather S.





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## STATISTICS

DATE	IAHCC	IAHKW
01		
02		
03		
04		
05	8.0	5.1
06	7.2	5.4
07	8.0	5.4
08	6.4	4.9
09	8.3	6.7
10	5.9	6.5
11	8.0	6.7
12	10.9	8.2
13	5.7	8.3
14	7.1	6.9
15	8.1	7.6
16	8.5	8.2
17	8.2	7.0
18	6.3	5.3
19	6.0	4.6
20	8.6	6.7
21	7.3	4.8
22	5.2	3.2
23	6.5	5.2
24	7.3	5.4
25	7.0	5.8
26	8.8	7.0
27	8.5	8.8
28	7.7	9.5
29	7.5	8.2
30	6.4	7.2
31	7.6	7.9

IAHCC		IAHKW	
mean	7.44	mean	6.53
mode	8.00	mode	5.40
median	7.50	median	6.70
range	5.70	range	6.30
kurtosis	1.32	kurtosis	-0.53
skewness	0.51	skewness	-0.05

### T-TEST FOR MATCHED PAIRS

t-crit = 2.05  
t-cal = 3.39

### PEARSONS CORRELATION

corr. coefficient = 0.49

### SPEARMANS CORRELATION

corr. coefficient = 0.47

### SCATTERGRAM

intercept =                      slope =

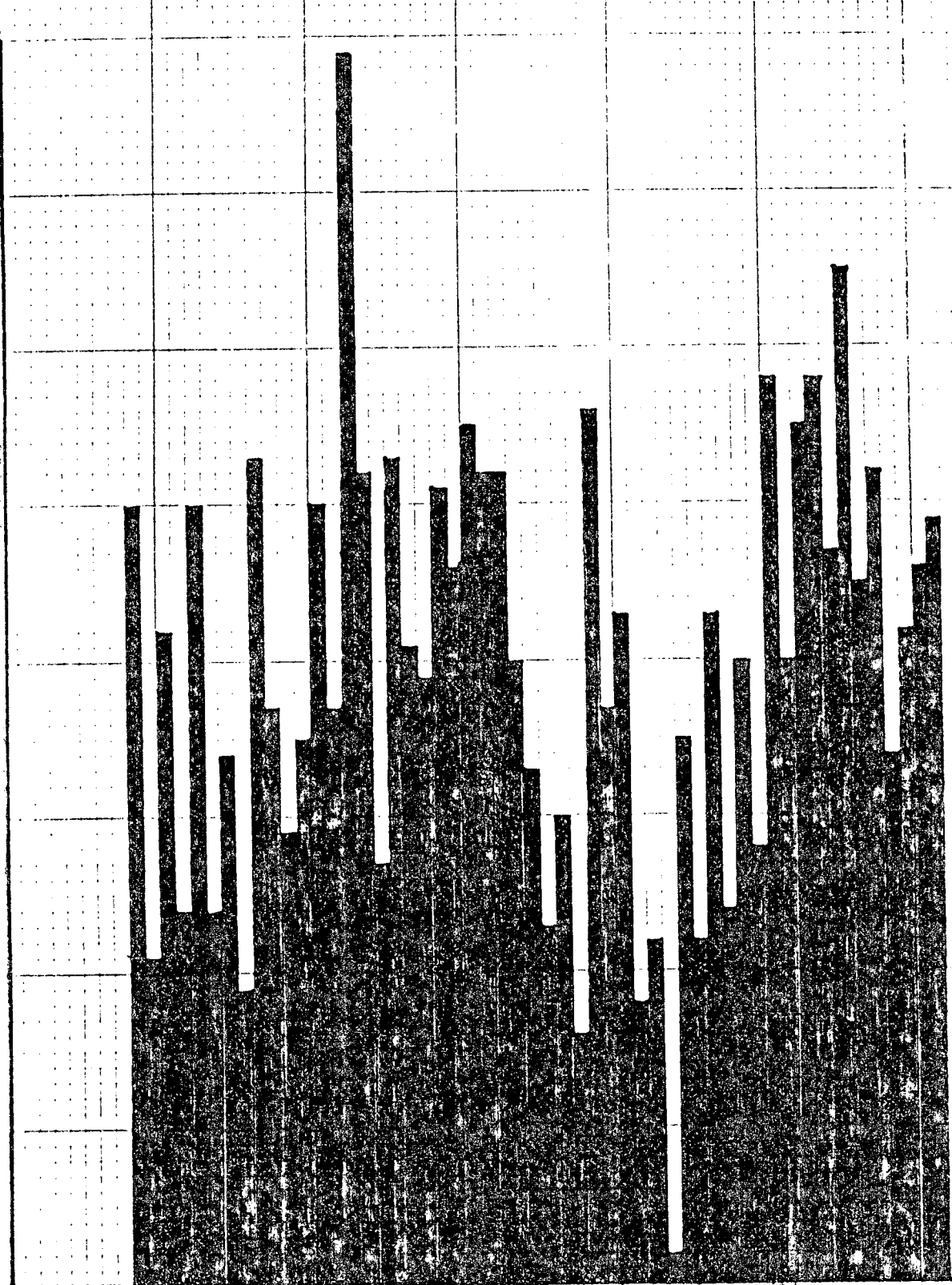
### COMMENTS:

The valley is lower in absolute humidity than the minimum absolute humidity recorded at Cariboo College.

Min. Absolute Humidity at Cariboo College Vs.

Min. Absolute Humidity at Kamloops W.S.

11  
10  
9  
8  
7  
6  
5  
4  
3  
113



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Month of May (Date)



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## STATISTICS

DATE	TPCC	TPKWS	in M.M.
01			
02			
03			
04			
05	0.5	1.6	
06	1.0	3.0	
07	7.3	0.0	
08	3.3	0.0	
09	5.3	4.8	
10	0.0	0.0	
11	1.5	2.3	
12	4.8	4.9	
13	0.0	0.2	
14	1.8	0.8	
15	1.5	1.2	
16	0.0	0.0	
17	0.0	0.0	
18	0.0	0.0	
19	0.0	0.0	
20	0.0	0.0	
21	0.0	0.0	
22	0.0	0.0	
23	0.0	0.0	
24	0.0	0.0	
25	0.0	0.3	
26	11.2	8.8	
27	11.0	3.2	
28	4.7	2.9	
29	1.2	5.7	
30	0.5	3.5	
31	4.0	1.0	

TOTAL RAIN      59.6    45.3

TPCC	TPKWS
mean	2.20
mode	0.00
median	0.52
range	11.20
kurtosis	2.38
skewness	1.73

### T-TEST FOR MATCHED PAIRS

t-crit = 2.05  
t-cal = 1.16

### PEARSONS CORRELATION

corr. coefficient = 0.62

### SPEARMANS CORRELATION

corr. coefficient = 0.68

### SCATTERGRAM

intercept =                      slope =

### COMMENTS:

The precipitation records indicate that Cariboo College receives more rain in May than Kamloops Airport.



# Total Precipitation Cariboo College Vs Total Precip. Kamloops Weather Station

12.0

10.0

8.0

6.0

4.0

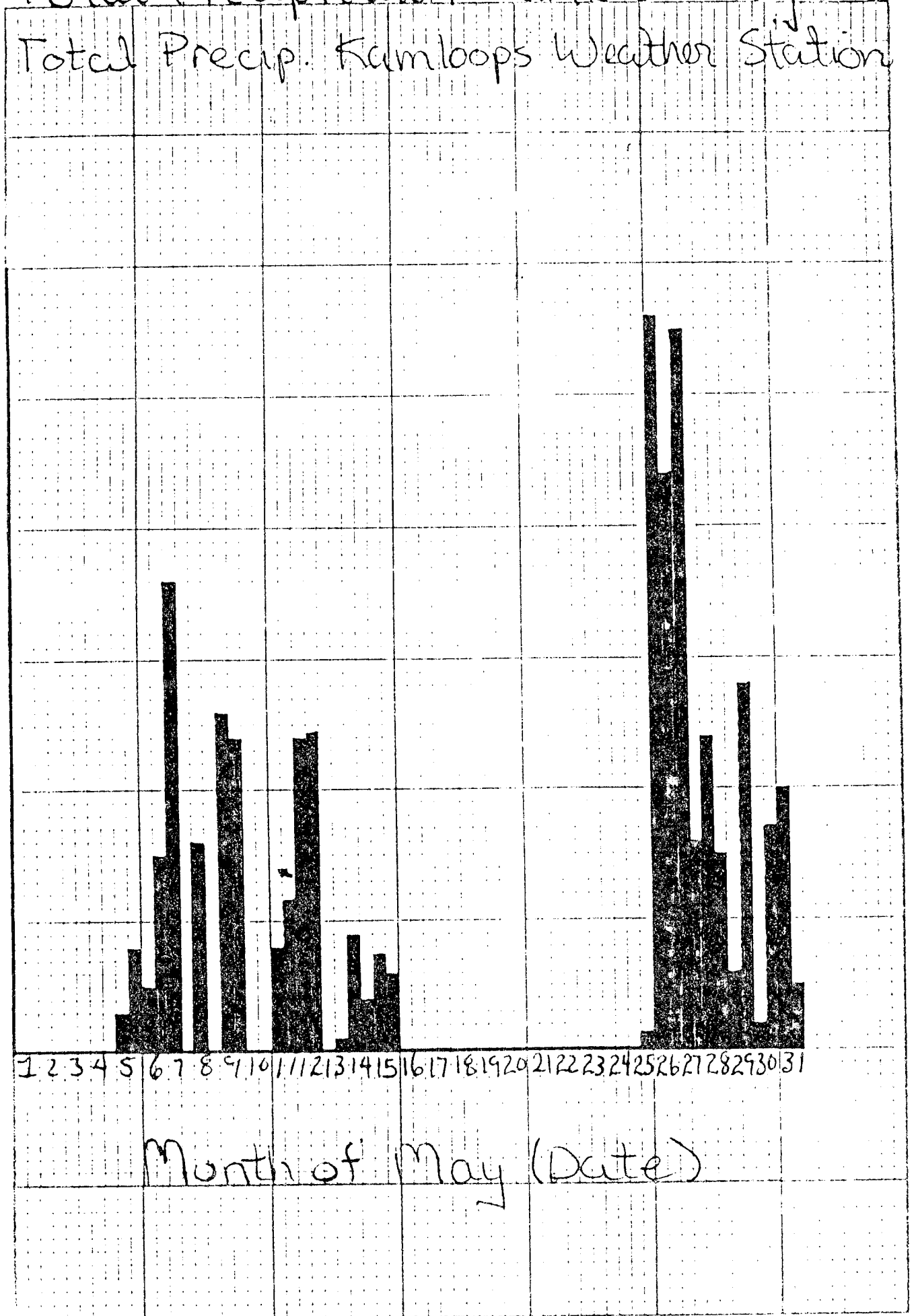
2.0

0

in.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Month of May (Date)





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## STATISTICS

DATE	DWCC	DWKWS	in KM/H
01			
02			
03			
04			
05	12.9	14.4	
06	29.3	12.3	
07	14.9	6.7	
08	13.6	10.0	
09	15.9	15.0	
10	4.4	5.7	
11	7.9	4.3	
12	4.7	3.7	
13	15.6	5.0	
14	10.6	9.9	
15	8.1	13.9	
16	7.8	10.3	
17	18.9	13.8	
18	13.1	10.2	
19	42.3	26.5	
20	23.8	17.2	
21	22.6	15.3	
22	26.4	14.7	
23	23.0	19.6	
24	28.2	24.5	
25	30.0	25.7	
26	29.3	27.0	
27	7.3	4.2	
28	5.7	7.4	
29	4.4	5.5	
30	6.3	6.8	
31	6.1	6.1	

DWCC	DWKWS
mean	16.04
mode	4.40
median	13.60
range	37.90
kurtosis	-0.09
skewness	0.76

### T-TEST FOR MATCHED PAIRS

t-crit = 2.05  
t-cal = 3.44

### PEARSONS CORRELATION

corr. coefficient = 0.85

### SPEARMANS CORRELATION

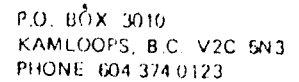
corr. coefficient = 0.81

### SCATTERGRAM

intercept =                      slope =

### COMMENTS:

On average, the college experiences more wind than the airport.



# Total Precipitation Cariboo College US Total Precipitation Kamloops Weather ST.

12

10

8

6

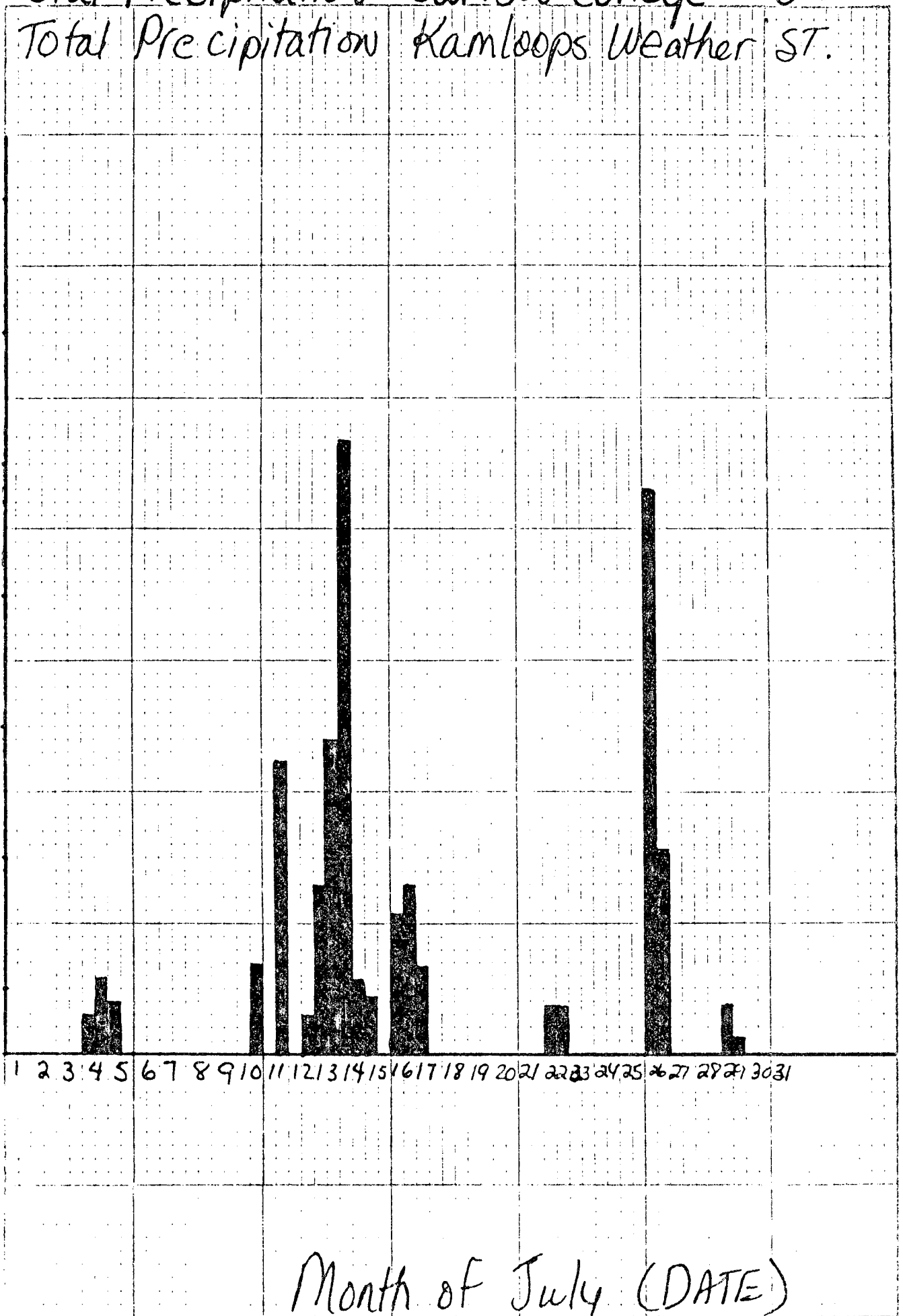
4

2

0

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Month of July (DATE)





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## STATISTICS

DATE	TPCC	TPKWS
01	2.8	3.4
02	1.0	0.6
03	6.2	4.6
04	11.3	16.7
05	5.3	7.1
06	5.8	7.9
07	0.0	0.5
08	2.5	1.2
09	0.4	0.0
10	0.0	0.0
11	0.0	0.0
12	0.0	0.0
13	0.0	0.0
14	0.0	0.4
15	0.0	0.0
16	0.0	1.0
17	1.8	3.0
18	0.0	0.0
19	0.0	0.0
20	0.0	0.4
21	0.0	0.0
22	0.0	2.8
23	0.8	0.4
24	0.0	0.0
25	1.6	2.2
26	2.3	1.8
27	3.0	5.2
28	0.5	0.0
29	2.4	3.6
30	4.8	6.2
31		

TOTAL RAIN

52.5 69.0

TPCC		TPKWS	
mean	1.75	mean	2.30
mode	0.00	mode	0.00
median	0.45	median	0.55
range	11.30	range	16.70
kurtosis	4.93	kurtosis	8.28
skewness	2.06	skewness	2.57

### T-TEST FOR MATCHED PAIRS

t-crit = 2.04  
t-cal = -2.23

### PEARSONS CORRELATION

corr. coefficient = 0.95

### SPEARMANS CORRELATION

corr. coefficient = 0.83

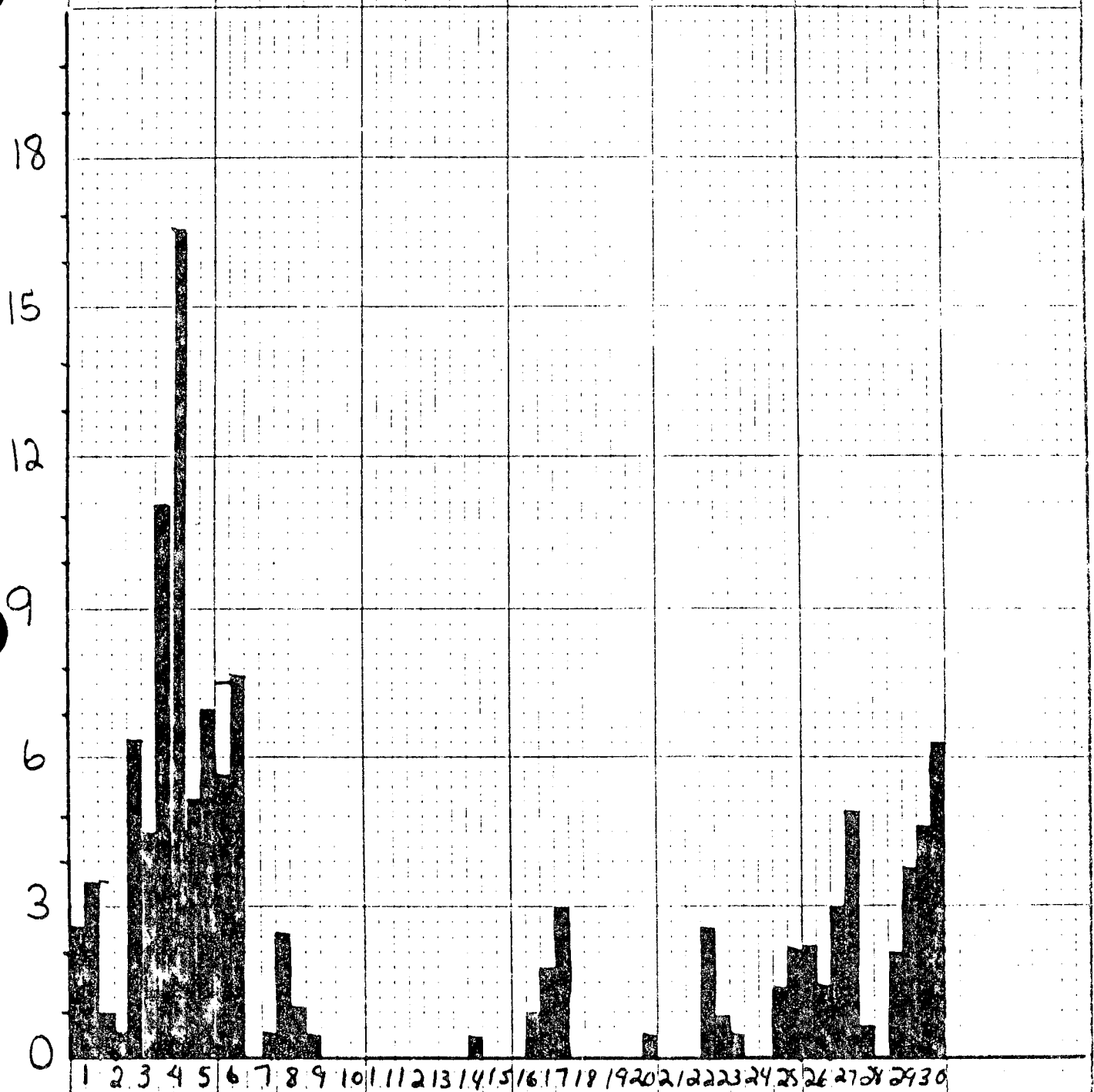
### SCATTERGRAM

intercept = 0.14 slope = 0.69

### COMMENTS:

The precipitation records indicate that Kamloops airport recieved more rain during June than Cariboo College, whereas in May of 1980 the results were directly opposite.

# Total Precipitation at Cariboo College Vs. Total Precipitation at Kamloops Weather S.



Month of June



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## STATISTICS

DATE	DWCC	DWKWS
01	21.3	18.3
02	13.6	12.8
03	N.A.	6.8
04	14.4	8.3
05	4.9	6.9
06	6.0	6.1
07	5.1	8.3
08	12.6	15.6
09	11.8	11.8
10	22.3	12.5
11	10.2	5.5
12	11.2	6.4
13	12.6	12.4
14	11.0	7.3
15	13.8	7.1
16	16.3	11.5
17	17.8	7.1
18	9.1	4.5
19	9.4	4.3
20	9.7	9.1
21	8.9	9.3
22	18.9	8.5
23	11.6	8.2
24	9.3	5.5
25	14.9	9.8
26	21.6	14.8
27	10.8	7.5
28	19.8	12.6
29	6.9	11.5
30	2.0	2.6
31		

DWCC		DWKWS	
mean	12.33	mean	9.09
mode	12.60	mode	5.50
median	11.60	median	8.30
range	20.30	range	15.70
kurtosis	-0.39	kurtosis	0.09
skewness	0.26	skewness	0.60

### T-TEST FOR MATCHED PAIRS

t-crit = 2.05  
t-cal = 4.22

### PEARSONS CORRELATION

corr. coefficient = 0.63

### SPEARMANS CORRELATION

corr. coefficient = 0.63

### SCATTERGRAM

intercept = 3.98    slope = 0.91

### COMMENTS:

On average, the College receives more wind daily than the valley.

# Daily Wind at Cariboo College Vs. Daily Wind at Kamloops Weather Station

30

25

20

15

10

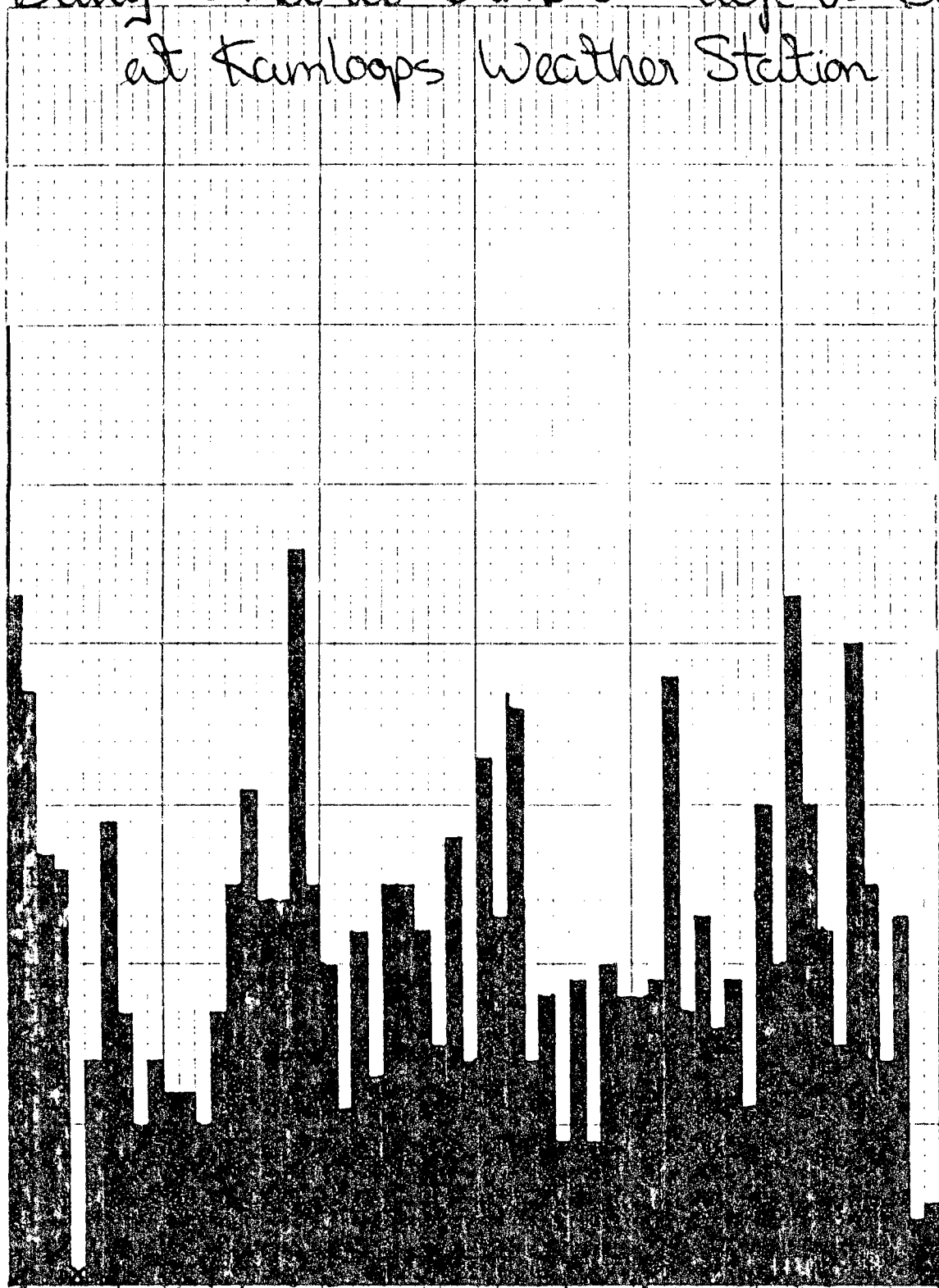
5

0

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

m/h

Month of June (Date)







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## STATISTICS

DATE	AWCC	AWKWS
01	50	39
02	41	33
03	25	24
04	40	19
05	32	24
06	45	26
07	42	26
08	83	61
09	42	33
10	57	28
11	45	22
12	52	26
13	45	30
14	68	35
15	40	19
16	55	39
17	52	28
18	23	17
19	27	11
20	62	33
21	52	30
22	60	35
23	43	30
24	33	18
25	46	24
26	50	35
27	40	26
28	44	33
29	32	39
30	18	9
31		

AWCC		AWKWS	
mean	44.80	mean	28.40
mode	40.00	mode	26.00
median	44.50	median	28.00
range	65.00	range	52.00
kurtosis	1.05	kurtosis	3.10
skewness	0.45	skewness	0.84

### T-TEST FOR MATCHED PAIRS

t-crit = 2.04  
t-cal = 10.25

### PEARSONS CORRELATION

corr. coefficient = 0.77

### SPEARMANS CORRELATION

corr. coefficient = 0.65

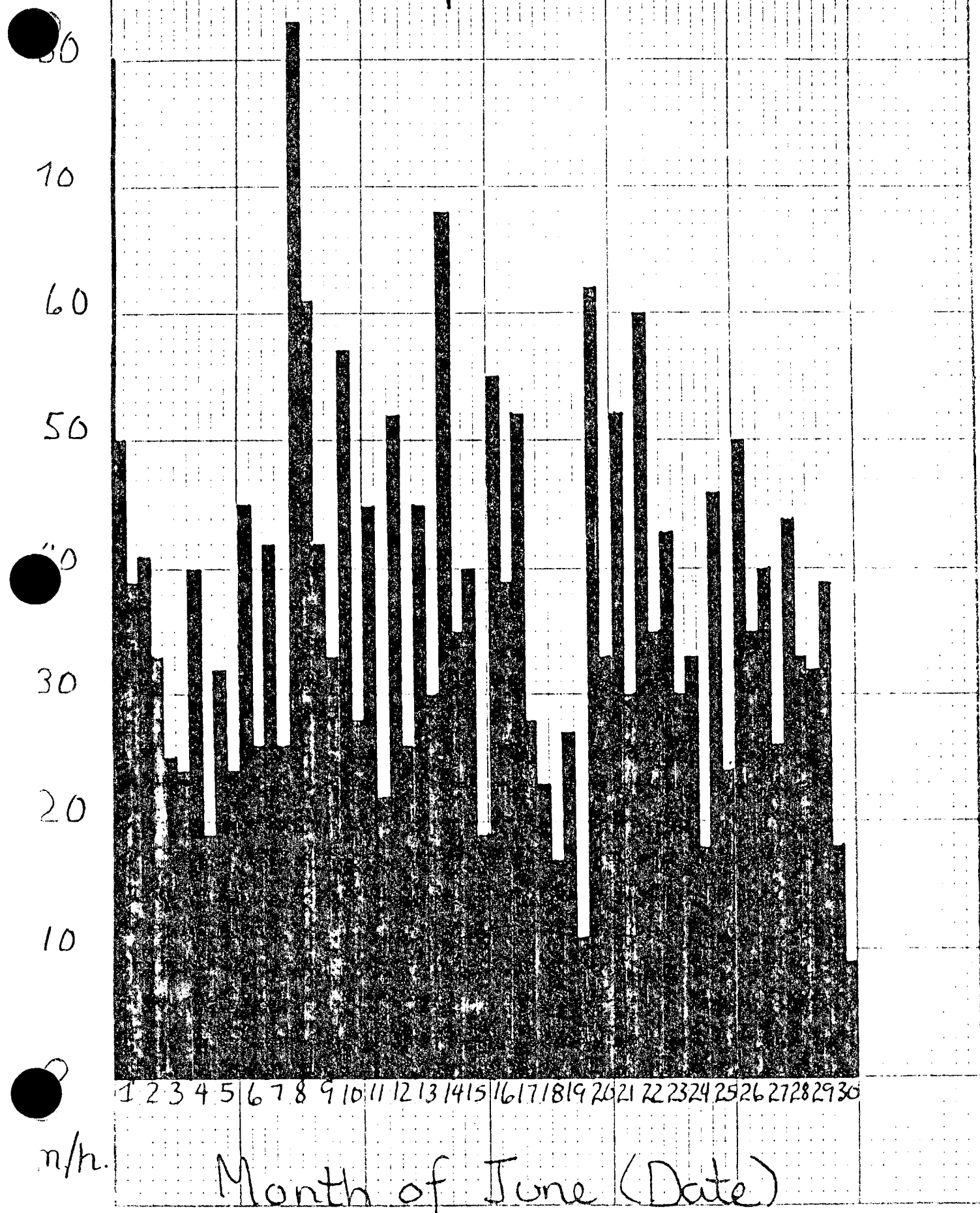
### SCATTERGRAM

intercept = 14.43 slope = 1.06

### COMMENTS:

Cariboo College consistently receives stronger daily winds than Kamloops Weather Station.

# Max. Wind Cariboo College Vs. Max Wind Kamloops Weather Station





# cariboo college

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## STATISTICS

DATE	AWDCC	AWDKW
01	290	293
02	310	315
03	260	203
04	170	N/A
05	320	N/A
06	180	180
07	220	180
08	250	225
09	170	112
10	270	112
11	260	248
12	340	293
13	290	270
14	200	270
15	180	293
16	320	270
17	170	112
18	190	N/A
19	90	112
20	160	203
21	30	295
22	190	112
23	270	155
24	150	112
25	180	112
26	180	295
27	180	112
28	160	135
29	320	295
30	330	135
31		

AWDCC		AWDKW	
mean	221.00	mean	201.81
mode	180.00	mode	112.00
median	195.00	median	202.50
range	310.00	range	203.00
kurtosis	-0.15	kurtosis	-1.74
skewness	-0.27	skewness	0.06

### T-TEST FOR MATCHED PAIRS

t-crit = 2.06  
t-cal = 1.08

### PEARSONS CORRELATION

corr. coefficient = 0.33

### SPEARMANS CORRELATION

corr. coefficient = 0.40

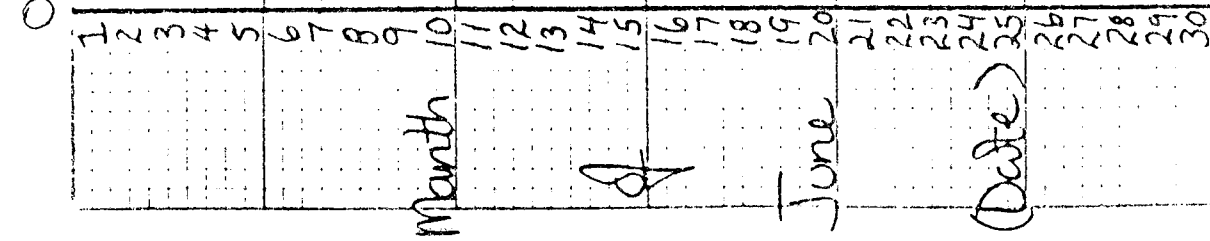
### SCATTERGRAM

intercept = 153.51 slope = 0.33

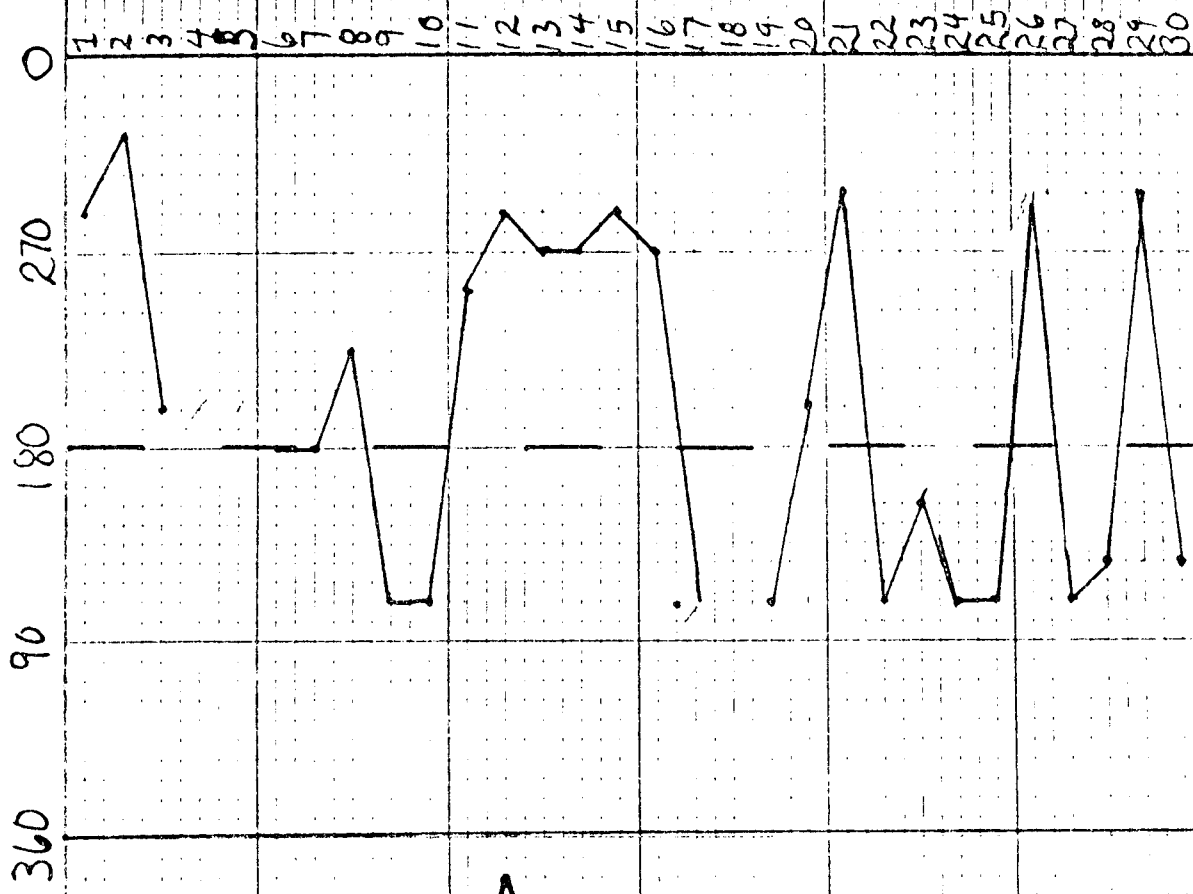
### COMMENTS:

For the month of June, Cariboo College recieved it's strongest winds from the north whereas Kamloops Airport experienced its strongest winds more often from the west.

Wind Velocity



Maximum Wind Direction





# cariboo college

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## STATISTICS

DATE	PWDCC	PWDKW
01	290	295
02	320	295
03	0	0
04	110	0
05	325	295
06	30	295
07	80	135
08	120	112
09	120	135
10	140	0
11	30	270
12	200	295
13	30	270
14	190	315
15	360	270
16	180	270
17	190	270
18	30	112
19	60	112
20	180	270
21	0	0
22	180	270
23	180	90
24	45	90
25	330	112
26	150	90
27	0	90
28	180	90
29	0	270
30	0	180
31		

PWDCC	PWDKW
mean	135.00
mode	0.00
median	122.50
range	360.00
kurtosis	-0.71
skewness	0.50

PWDKW	
mean	176.60
mode	270.00
median	145.00
range	315.00
kurtosis	-1.43
skewness	-0.26

### T-TEST FOR MATCHED PAIRS

t-crit = 2.04

t-cal = -1.88

### PEARSONS CORRELATION

corr. coefficient = 0.39

### SPEARMANS CORRELATION

corr. coefficient = 0.44

### SCATTERGRAM

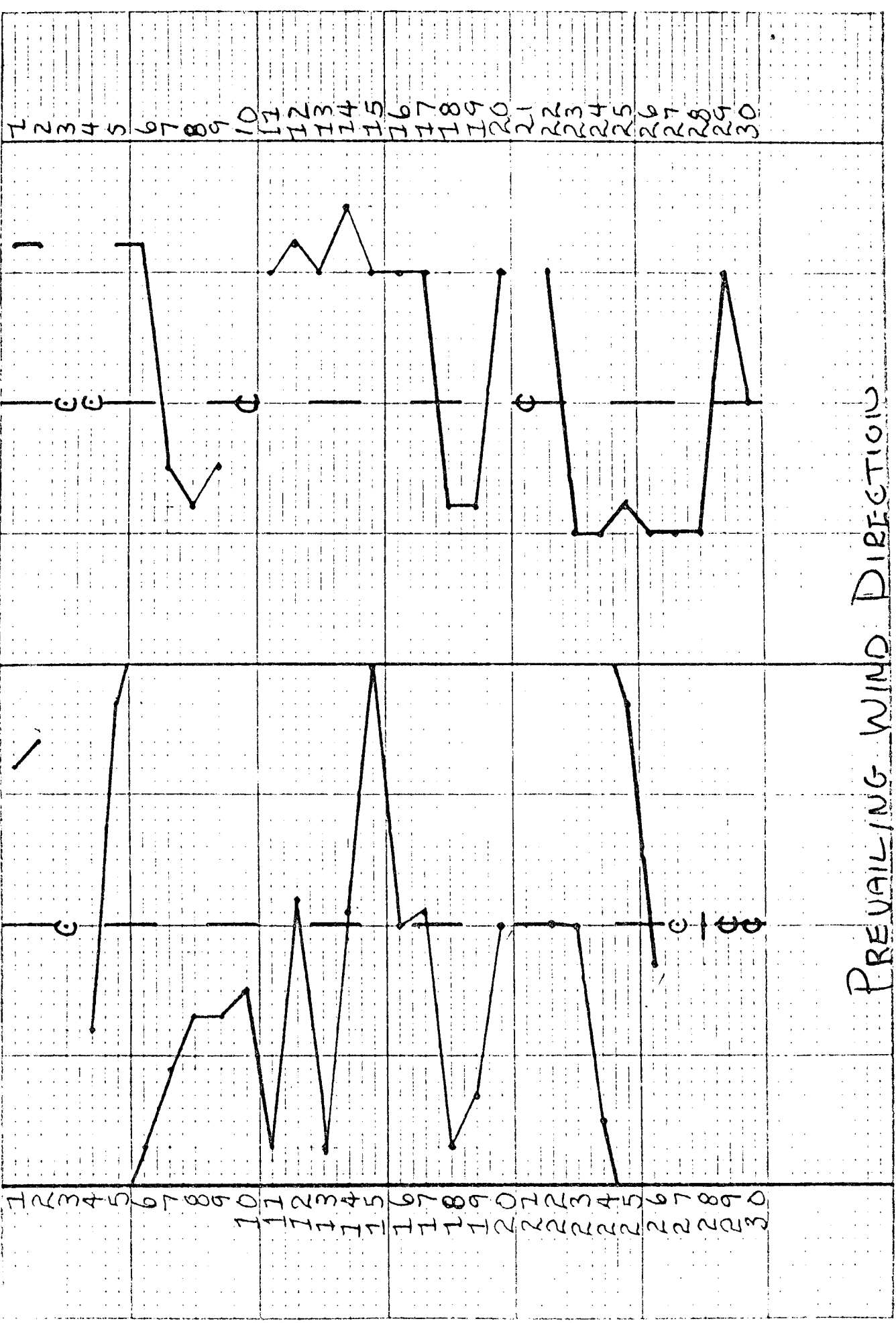
intercept = 64.54 slope = 0.39

### COMMENTS:

The mean direction of Cariboo College's prevailing wind direction is perhaps the best indicator of wind direction for this station, whereas the median for Kamloops weather station is the best indicator for wind direction at the airport. If this is the case, a north-west wind was dominate at Cariboo College and an easterly wind was prevalent at Kamloops Weather Station.

WIND DIRECTION

0 90 180 270 360



PREVAILING WIND DIRECTION



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## STATISTICS

DATE	ATCC	ATKWS
01	27.8	29.3
02	29.3	29.0
03	23.2	23.8
04	16.7	18.4
05	18.6	20.6
06	22.5	24.0
07	31.0	31.8
08	31.3	32.3
09	32.0	32.2
10	25.8	26.3
11	21.4	22.5
12	21.8	24.0
13	26.3	28.0
14	23.5	23.8
15	21.8	23.3
16	23.8	25.8
17	23.3	25.5
18	18.7	22.8
19	24.9	26.5
20	28.0	30.7
21	33.5	34.0
22	36.0	37.3
23	30.0	30.6
24	28.6	30.5
25	30.7	32.0
26	31.4	32.4
27	31.3	31.0
28	31.4	29.2
29	28.7	30.1
30	29.6	31.6
31	31.3	28.1

ATCC		ATKWS	
mean	26.91	mean	28.03
mode	31.30	mode	22.80
median	28.00	median	29.20
range	19.30	range	18.90
kurtosis	-0.73	kurtosis	-0.69
skewness	-0.33	skewness	-0.23

## T-TEST FOR MATCHED PAIRS

t-crit = 2.04  
t-cal = -6.57

## PEARSONS CORRELATION

corr. coefficient = 0.98

## SPEARMANS CORRELATION

corr. coefficient = 0.96

## SCATTERGRAM

intercept = -2.75 slope = 1.05

## COMMENTS:

For the month of July, the mean maximum temperature at K.W.S. significantly exceeds the mean maximum temperature at Cariboo College: this is consistent with the results of the past two months.

# Max. Temp. Cariboo College Vs. Max Temp Kamloops Weather Station

1C  
40

35

30

25

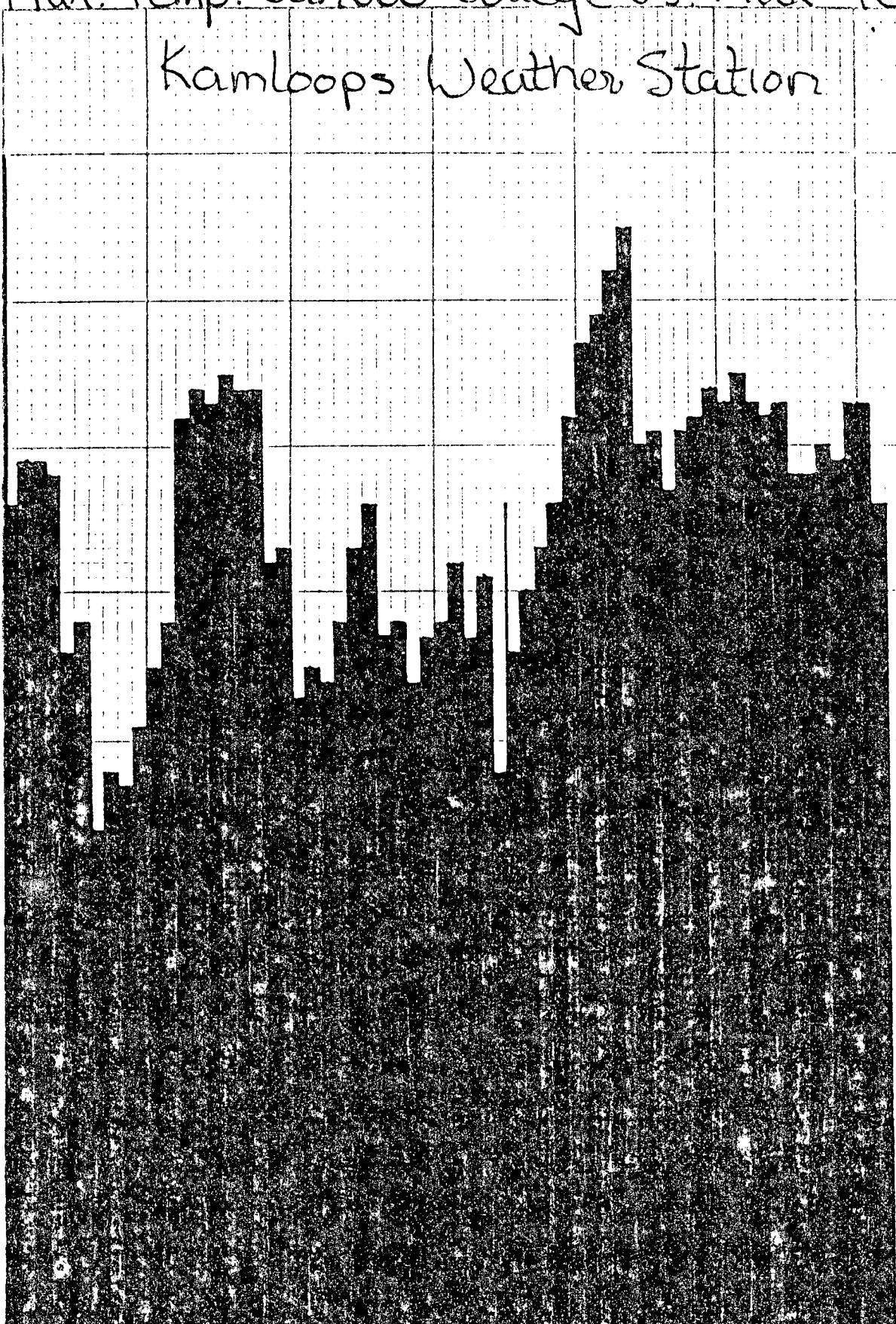
20

15

10

5

0



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Month of July (Date)





# cariboo college

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## STATISTICS

DATE	ITCC	ITKWS
01	9.0	8.9
02	14.0	11.9
03	13.8	12.4
04	11.0	11.1
05	8.7	8.3
06	10.6	11.0
07	9.8	10.9
08	16.0	12.4
09	15.4	12.3
10	14.0	14.0
11	11.9	12.7
12	13.3	13.7
13	12.0	11.2
14	13.2	14.8
15	14.0	12.3
16	12.5	11.5
17	13.4	13.9
18	11.2	13.4
19	10.0	11.5
20	13.1	12.3
21	16.5	15.9
22	18.7	18.1
23	19.5	15.3
24	13.6	12.7
25	11.4	13.6
26	16.2	15.1
27	14.8	14.8
28	15.7	14.0
29	17.2	15.2
30	14.0	12.0
31	14.8	11.6

ITCC		ITKWS	
mean	13.52	mean	12.79
mode	14.00	mode	12.30
median	13.60	median	12.42
range	10.80	range	9.80
kurtosis	-0.16	kurtosis	1.07
skewness	0.20	skewness	0.23

### T-TEST FOR MATCHED PAIRS

t-crit = 2.04  
t-cal = 2.31

### PEARSONS CORRELATION

corr. coefficient = 0.74

### SPEARMANS CORRELATION

corr. coefficient = 0.67

### SCATTERGRAM

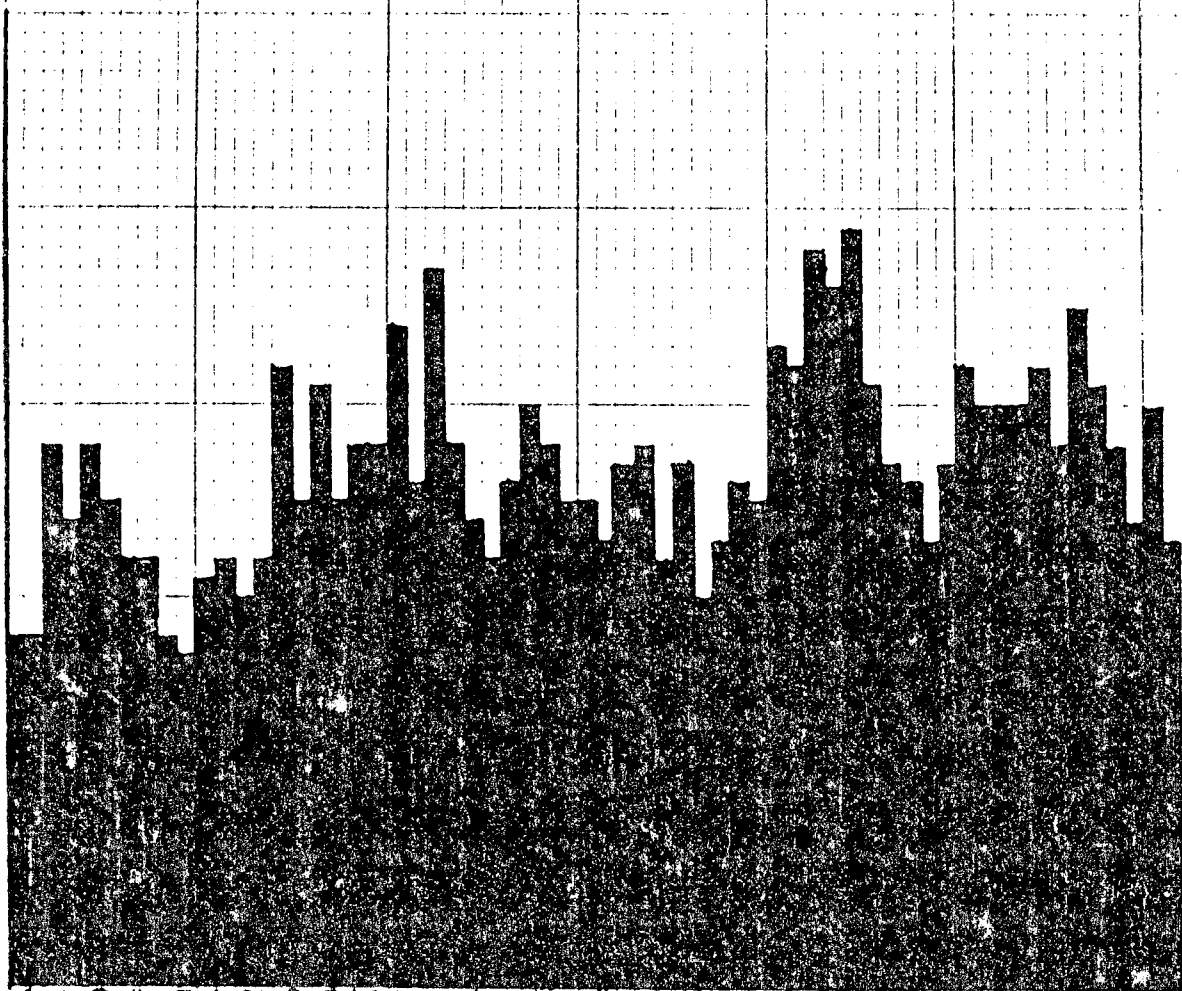
intercept = 0.76    slope = 0.99

### COMMENTS:

In the past monthly comparisons the valley consistently recieved lower mean minimum temperatures than the hill, but not significantly; this is the same for July, only the difference is now significant.

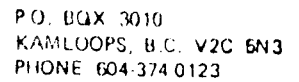
# Minimum Temperature Kamloops Weather St. Vs. Minimum Temp. Cariboo College.

C  
25  
20  
15  
10  
5  
0



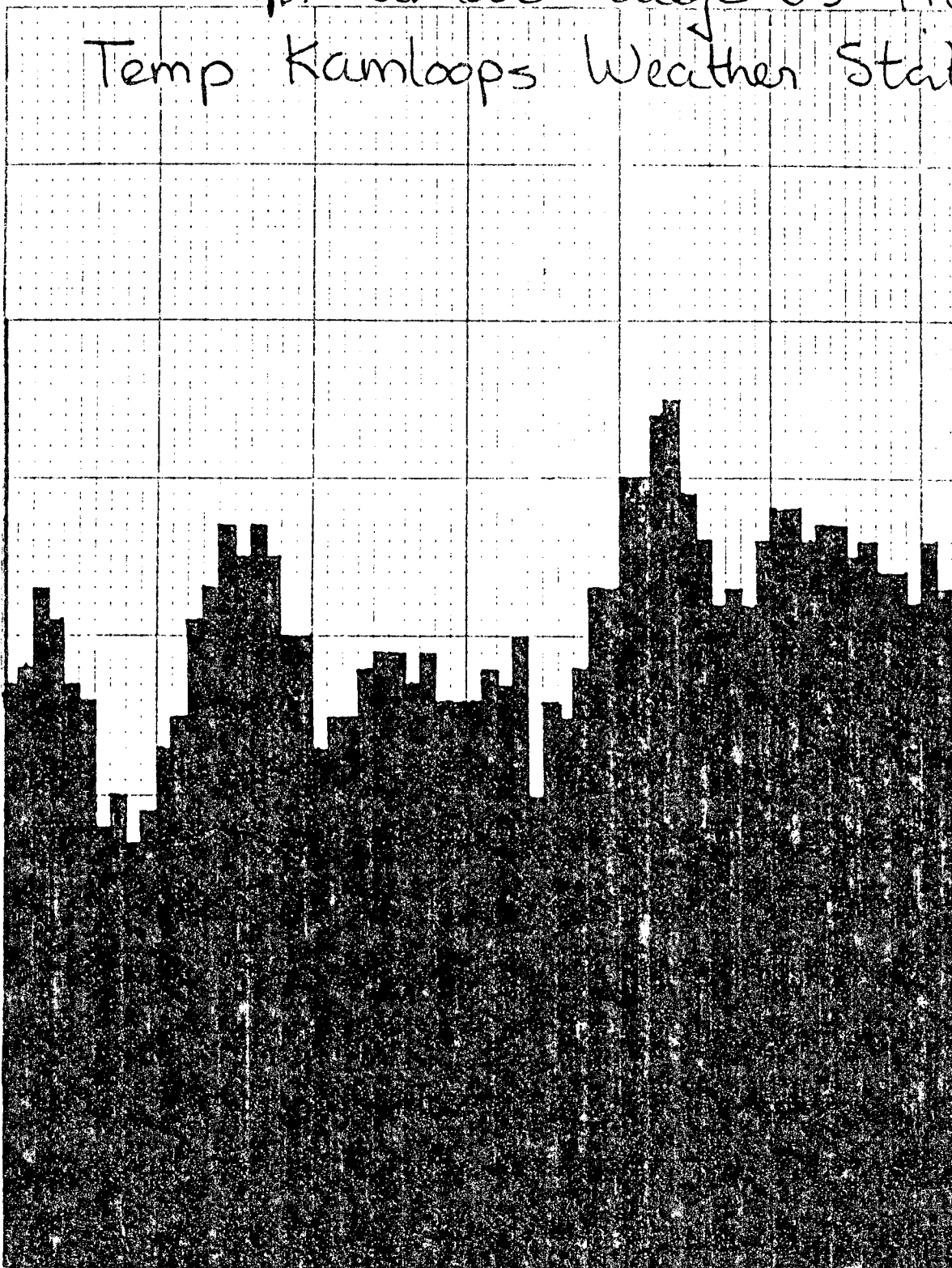
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Month of July (Date)



# Mean Temp. Cariboo College Vs Mean Temp Kamloops Weather Station.

C  
30  
25  
20  
15  
10  
5  
0



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Month of July (Date)



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## STATISTICS

DATE	RTCC	RTKWS
01	18.8	20.4
02	15.3	17.1
03	9.4	11.4
04	5.7	7.3
05	9.1	12.3
06	11.9	13.0
07	21.2	20.9
08	15.3	19.9
09	16.6	19.9
10	11.8	12.3
11	9.5	9.8
12	8.5	10.3
13	14.3	16.8
14	10.3	9.0
15	7.8	11.0
16	11.3	14.3
17	9.9	11.6
18	7.5	9.4
19	14.9	15.0
20	14.9	18.4
21	17.0	18.1
22	17.3	19.2
23	10.5	15.3
24	15.0	17.8
25	19.3	18.4
26	15.2	17.3
27	16.5	17.6
28	15.7	17.0
29	11.5	17.2
30	15.6	18.5
31	16.5	18.7

RTCC		RTKWS	
mean	13.35	mean	15.16
mode	14.90	mode	7.30
median	14.87	median	17.00
range	15.50	range	13.60
kurtosis	-0.82	kurtosis	-1.05
skewness	-0.08	skewness	-0.51

### T-TEST FOR MATCHED PAIRS

t-crit = 2.04  
t-cal = -5.93

### PEARSONS CORRELATION

corr. coefficient = 0.91

### SPEARMANS CORRELATION

corr. coefficient = 0.90

### SCATTERGRAM

intercept = 0.33 slope = 0.85

### COMMENTS:

Kamloops Weather Station records a greater range in temperature than Cariboo College for the third consecutive month in a row.

Range in Temp. Cariboo College Us  
Range in Temp. Kamloops Weather St.

>C

30

25

20

5

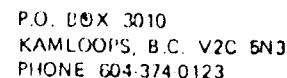
10

5

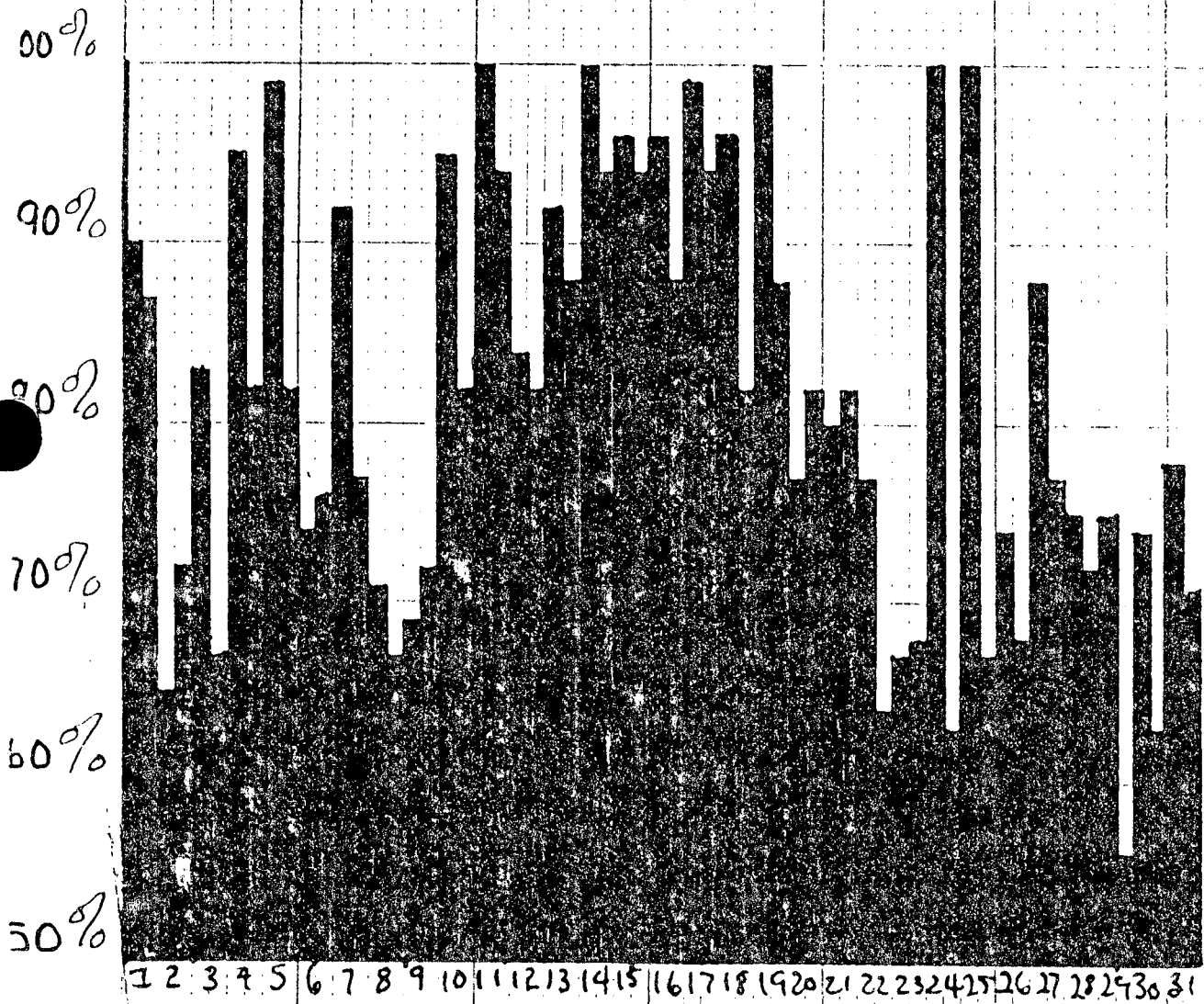
0

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Month of July (Date)

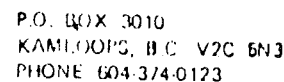


# Maximum Rel. Humidity at Cariboo College V.s Max. Relative Humidity at Kamloops Weather Station



Month of July (Date)





Min. Relative Humidity Cariboo College VS  
 Min. Relative Humidity KAMLOOPS W. ST.

65

55

45

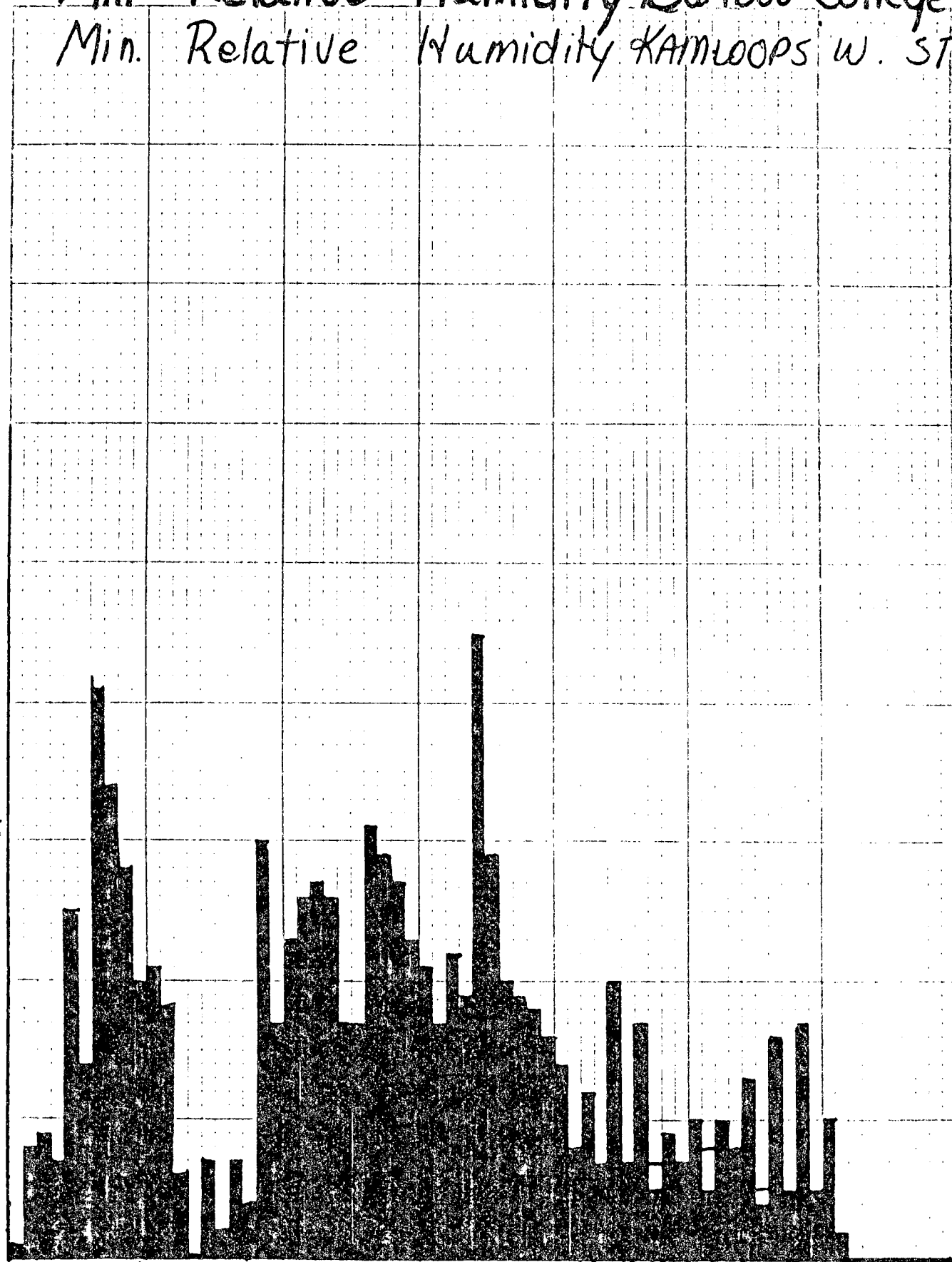
35

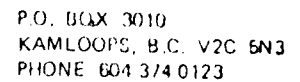
25

15

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Month of July (DATE)



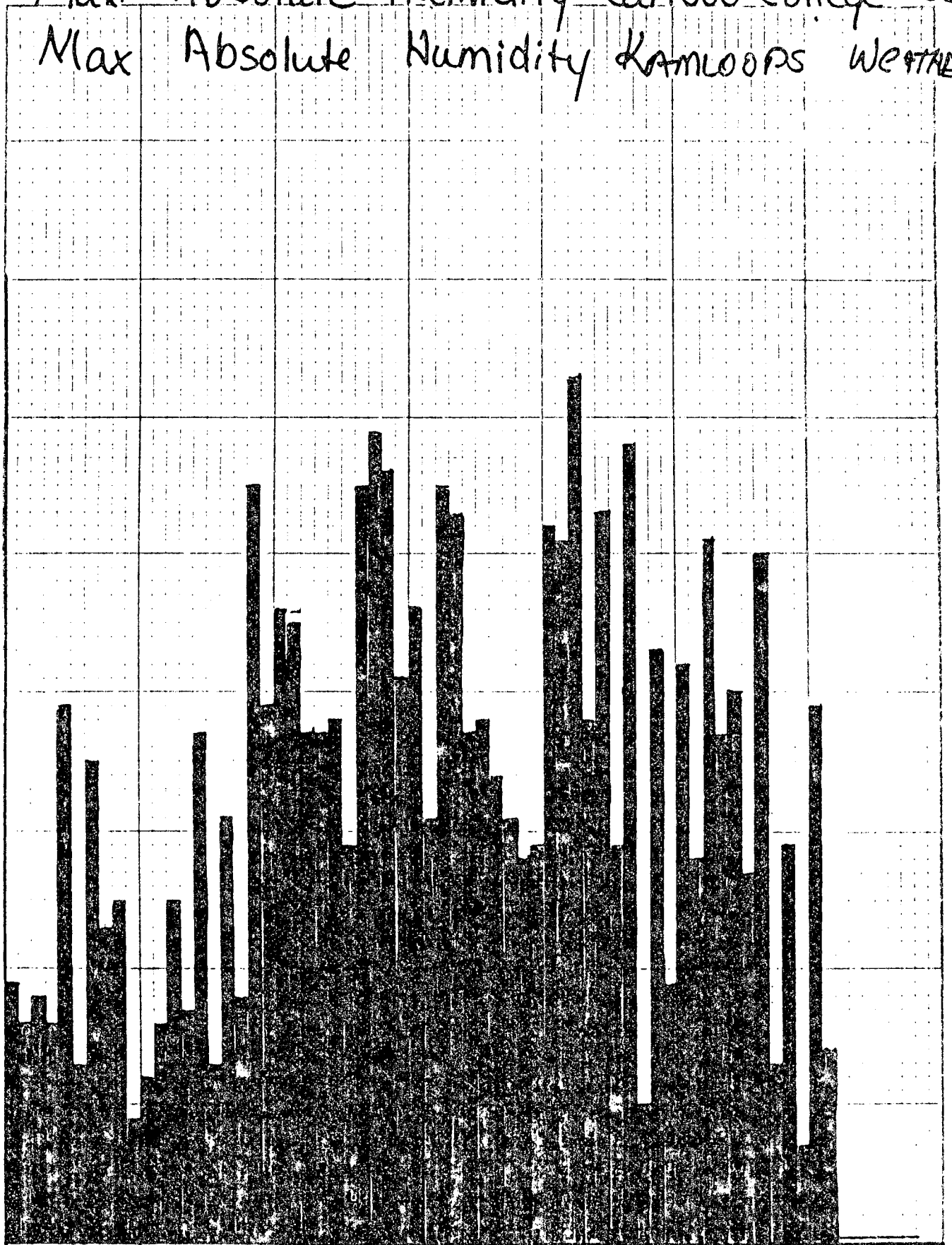


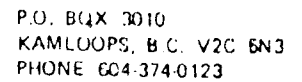
Max. Absolute Humidity Cariboo College Us.  
 Max Absolute Humidity Kamloops WEATHERS

12  
11  
10  
9  
8  
7  
6

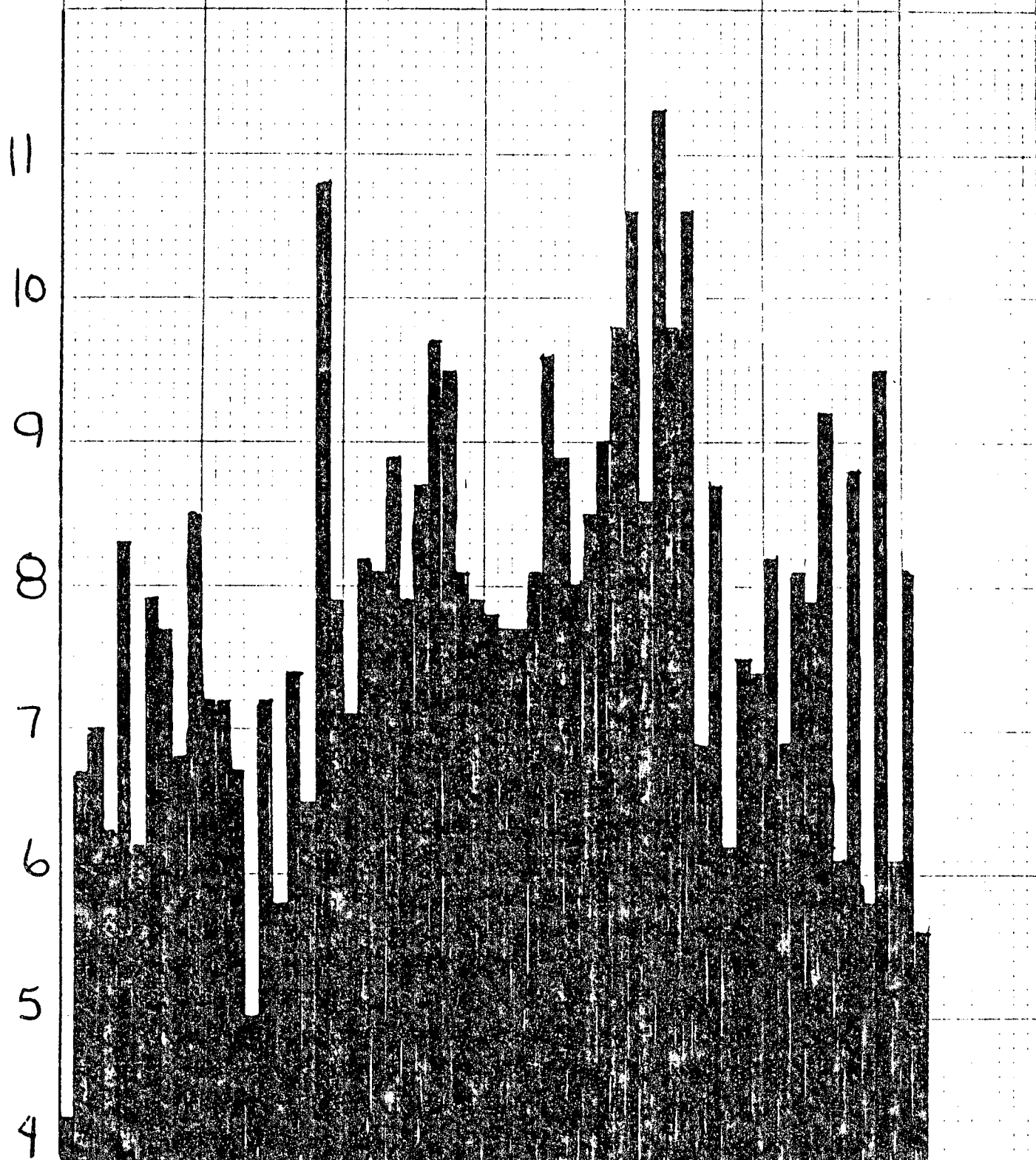
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Month of July (DATE)





Min. Absolute Humidity at Cariboo College vs  
 Min. Absolute Humidity at KAMLOOPS Weather ST.



MONTH OF July (DATE)



# cariboo college

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## STATISTICS

DATE	DWCC	DWKWS
01	9.3	5.6
02	14.3	8.8
03	24.2	12.0
04	11.7	15.1
05	22.3	12.8
06	N/A	6.2
07	N/A	14.3
08	16.2	6.6
09	7.6	5.4
10	16.4	8.8
11	11.5	8.0
12	7.6	7.5
13	14.2	5.8
14	7.9	4.9
15	12.6	8.5
16	12.5	6.7
17	8.8	7.8
18	5.7	10.3
19	9.4	7.7
20	10.0	3.9
21	6.6	4.2
22	21.2	19.7
23	16.3	11.3
24	8.5	7.1
25	11.3	6.7
26	13.0	8.8
27	15.0	6.0
28	14.9	5.5
29	20.3	10.1
30	9.6	7.4
31	8.5	6.8

DWCC		DWKWS	
mean	12.67	mean	8.39
mode	7.60	mode	8.80
median	11.70	median	7.50
range	18.50	range	15.80
kurtosis	-0.01	kurtosis	2.60
skewness	0.80	skewness	1.49

## T-TEST FOR MATCHED PAIRS

t-crit = 2.05  
t-cal = 5.93

## PEARSONS CORRELATION

corr. coefficient = 0.58

## SPEARMANS CORRELATION

corr. coefficient = 0.49

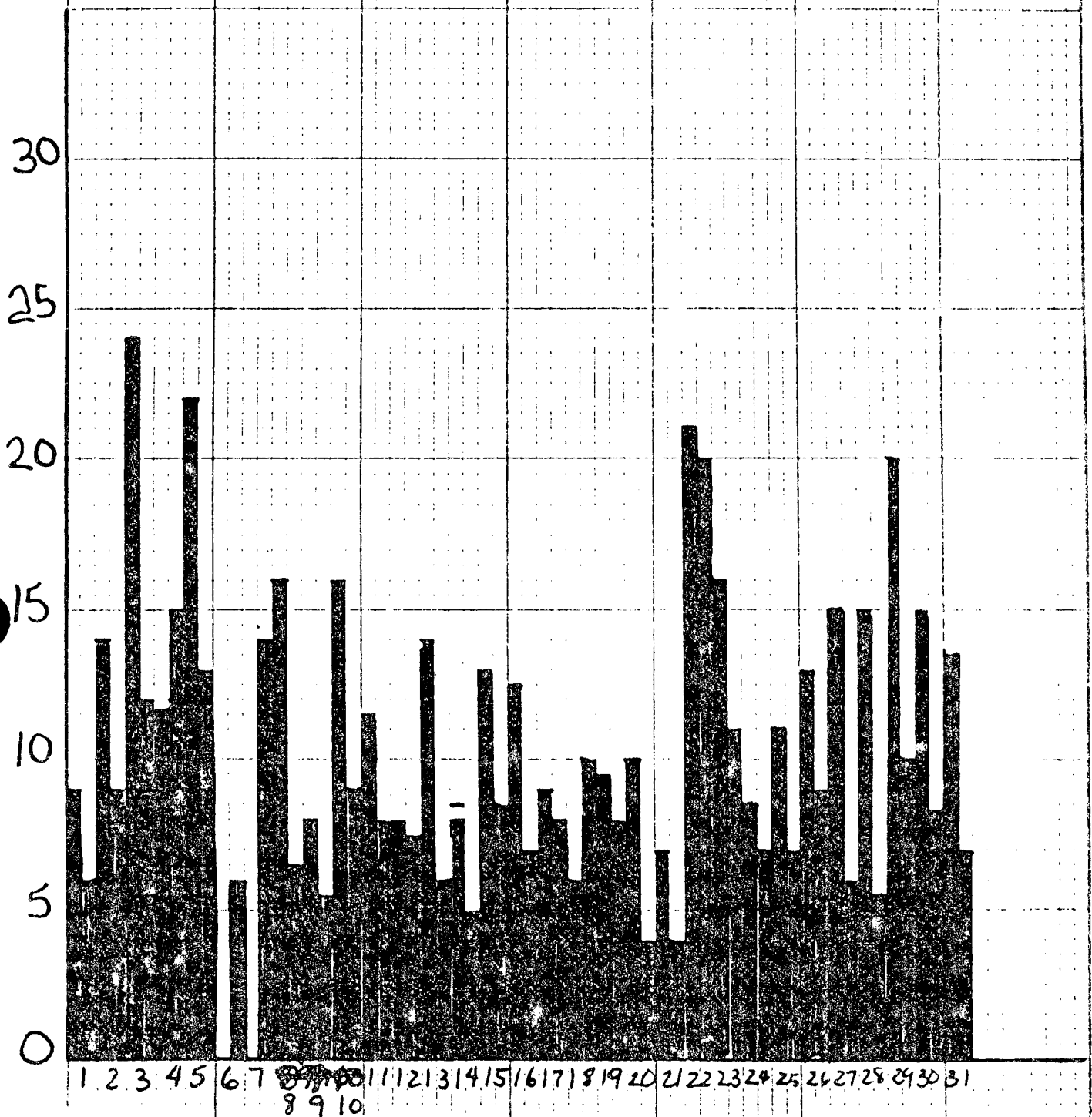
## SCATTERGRAM

intercept = 5.76 slope = 0.83

## COMMENTS:

The college has consistently recorded a significantly greater amount of wind daily, than the airport.

# DAILY WIND CARIBOO College VS DAILY WIND W. ST.



Month of July (Date)





# cariboo college

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## STATISTICS

DATE	AWCC	AWKWS
01	28	13
02	55	22
03	45	37
04	60	39
05	54	35
06	NA	22
07	NA	24
08	42	28
09	42	32
10	46	48
11	30	22
12	30	22
13	52	43
14	32	15
15	50	28
16	57	28
17	37	18
18	47	10
19	37	15
20	32	13
21	25	11
22	67	46
23	44	26
24	28	17
25	33	19
26	47	24
27	60	22
28	37	12
29	43	24
30	35	24
31	47	28

AWCC		AWKWS	
mean	42.79	mean	24.77
mode	37.00	mode	22.00
median	43.00	median	23.62
range	42.00	range	38.00
kurtosis	-0.67	kurtosis	-0.02
skewness	0.30	skewness	0.69

### T-TEST FOR MATCHED PAIRS

t-crit = 2.05  
t-cal = 10.74

### PEARSONS CORRELATION

corr. coefficient = 0.65

### SPEARMANS CORRELATION

corr. coefficient = 0.64

### SCATTERGRAM

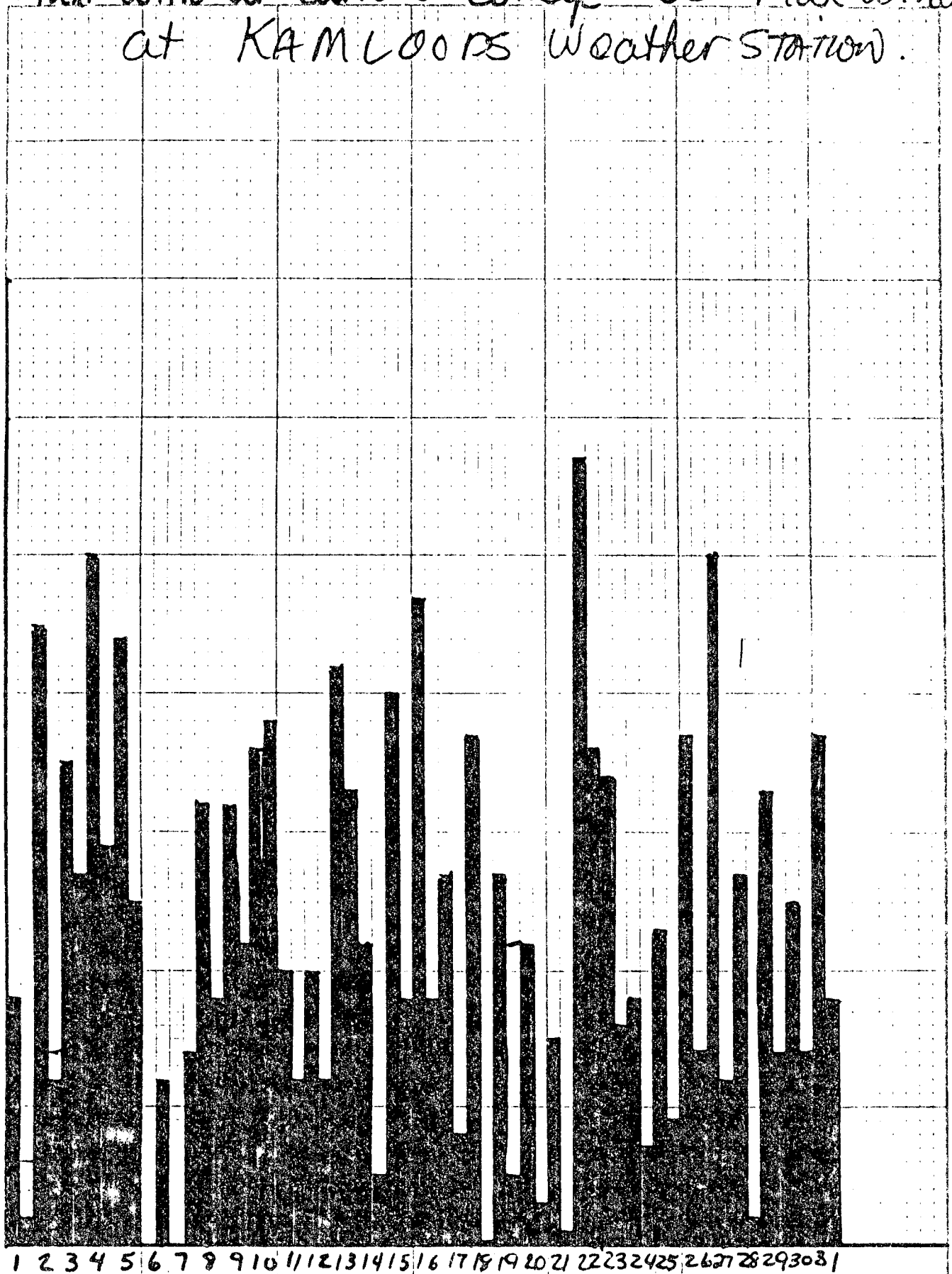
intercept = 25.63 slope = 0.69

### COMMENTS:

Cariboo College consistently receives stronger winds than Kamloops Airport.

Max. Wind at Cariboo College Us Max Wind  
at KAMLOOPS Weather Station.

70  
60  
50  
40  
30  
20  
10



Month of July (DATE)



# cariboo college

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## STATISTICS

DATE	AWDCC	AWDKW
01	230	0
02	140	250
03	180	225
04	120	90
05	180	180
06	N/A	70
07	N/A	200
08	210	225
09	230	270
10	180	250
11	360	225
12	150	290
13	160	290
14	280	225
15	210	250
16	20	70
17	20	0
18	360	0
19	180	270
20	90	90
21	30	0
22	270	250
23	20	70
24	350	315
25	360	290
26	360	290
27	240	250
28	360	270
29	310	290
30	330	270
31	200	225

AWDCC	AWDKW
mean	211.38
mode	360.00
median	207.50
range	340.00
kurtosis	-0.84
skewness	-0.23

### T-TEST FOR MATCHED PAIRS

t-crit =	2.05
t-cal =	0.74

### PEARSONS CORRELATION

corr. coefficient =	0.54
---------------------	------

### SPEARMANS CORRELATION

corr. coefficient =	0.46
---------------------	------

### SCATTERGRAM

intercept =	97.31	slope =	0.57
-------------	-------	---------	------

### COMMENTS:

For the month of July, Cariboo College recieved its strongest winds more often from the south, where as Kamloops Weather Station recieves its strongest daily winds from the north-east.

Caribou College

Maximum Wind Direction

Month of July (Date)

0 90 180 270 360 90 180 270 0

Month

of

July

(Date)

Month

of

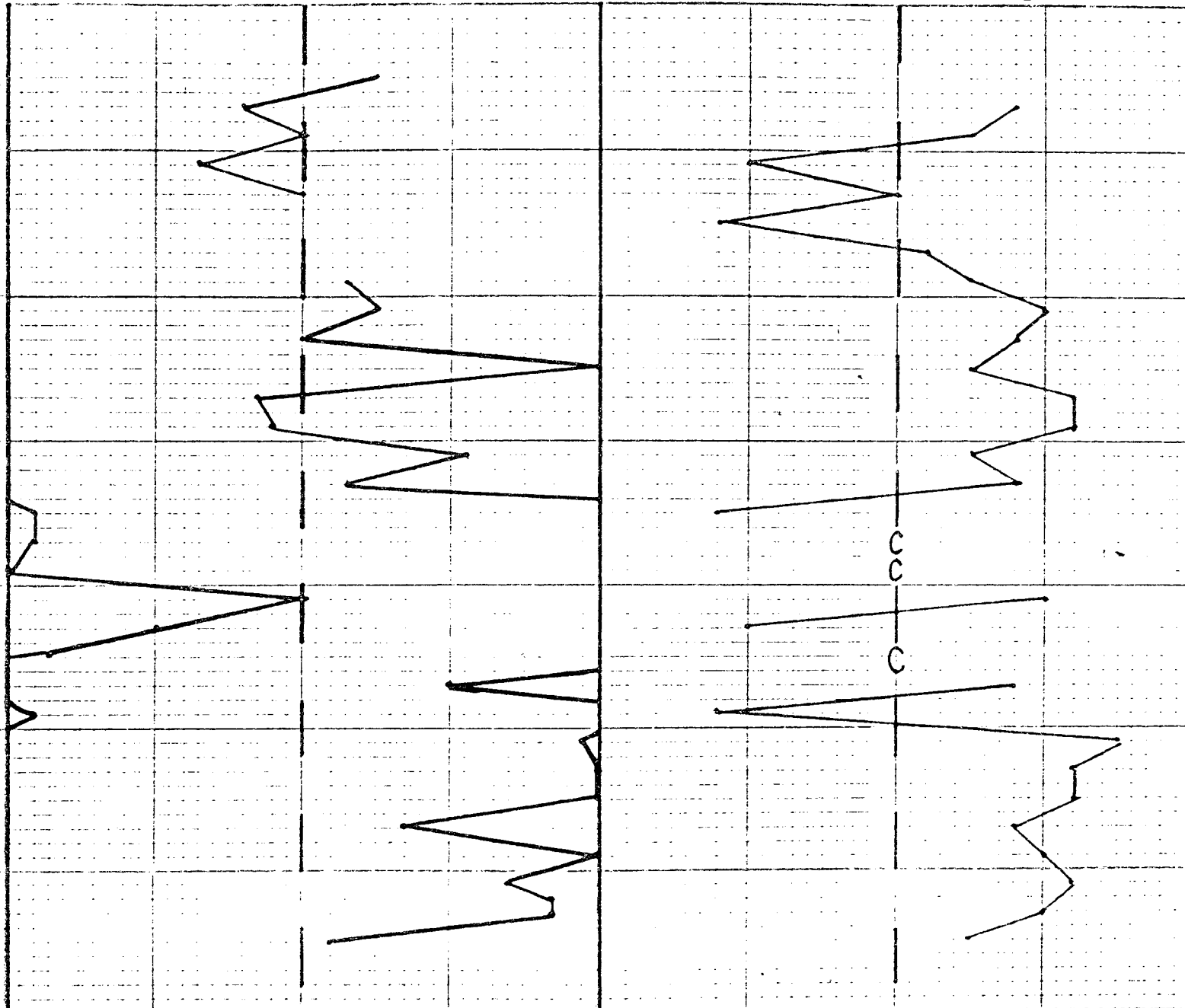
July

(Date)

Maximum Wind Direction

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of

July

(Date)

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of

July

(Date)

Prevailing Wind Direction