U. S. DEPARTMENT OF AGRICULTURE WEATHER BUREAU

ANNUAL METEOROLOGICAL SUMMARY

WITH COMPARATIVE DATA

1931

LANDER, WYOMING

Compiled by HUGH. D. SPANGLER

LINCOLN, NEBRASKA

ANNUAL METEOROLOGICAL SUMMARY

LANDER, WYOMING

YEAR 1931

Latitude, 42° 50′ N.; longitude, 108° 45′ W. Elevation above ground [feet]: thermometers, 60; rain-gage, 54; anemometer, 68.

	Temperature					Precipitation Relative Humidity						Wind 8-cup anemometer					Number of days																
	Means Extremes			is i			ļ	110.	iiiwii		t of	τα:		_		ximu		per		ļ		inch	-			Max. Min.		n.					
Month	Maximum	Minimum	Monthly	Highest,	Date .	Lowest	Date	Total	Greatest in 24 hou	Date	Snowfall	6 a. m.	Noon	6 p. m.	Sunshine, per cent possible	Average cloudiness (scale 0-10)	Average hourly velocity · ·	Prevailing direction	Velocity	Direction	<u> </u>	Winds of 33 miles hour or over	Clear	Partly cloudy	udy,	Precipitation, 01 in or more	Thunderstorms	80 ⋅	Snow, 0.1 inch or more	32° or below	90° or above	32° or below	Zero or below
January February March April May June July August September October November December	38 42 46 56 55 88 88 75 61 40	11 16 20 31 89 51 55 52 45 84 15	25 29 33 44 52 66 72 63 60 48 27	60 52 67. 72 83 92 100 92 90 76 70	28 18 21 12 15 21 11 4 11 2	0 3 -7 19 23 41 40 49 25 -13 -18	10 13 27 3 8 18 7 23 22 27 20 13	T. 0. 77 0. 85 1. 82 2. 20 0. 44 2. 10 0. 59 1. 73 1. 62 0. 77 T.	0.67 1.04 1.08 0.39 1.48 0.27 0.79	17 20-21 25-26 21-22 28-29 4-5 30-31 23 22 21 20-21 20-21	T. 8. 4 8. 5 15. 3 0. 2 0. 0 0. 0 2. 1 2. 6 7. 2	63 65 65 65 65 78 78	50 51 45 48 40 34 28 34 44 44 56	68 60 50 40 38 31 26 34 35 54 62 83	66 66 64 71 64 75 80 74 78 62 75	3.7 3.8 4.5 5.2 4.0 2.8 5.5 4.1 3.5 4.5 2.4	2.9 2.7 5.2 5.7 5.7 4.9 4.6 3.9 5.0 8.9 8.6 2.4	8W. 8W. 8W. 8W. 8W. 8W. 8W. 8W.	20 20 39 36 36 37 31 35 35 33 30	SW. DW. SW. SW. SW. SW. SW. SW. SW. S	16 16 9 18 26 26 10 23 10 26 15 21	0 0 3 2 3 1 0 1 2 1 0 0	14 15 13 11 11 15 20 16 20 15 17 22	13 11 13 10 18 11 9: 12 7 9: 8	42597,4283751	0 4 5 10 11 3 8 5 5 6 4	0 0 0 1 2 3 8 6 2 0 0	000000000000000000000000000000000000000	0 4 5 8 2 0 0 0 2 2 4 0	10 1 5 2 0 0 0 0 0 0 11 22	0 0 0 0 0 0 5 15 1 0 0	81 28 30 16 6 0 0 0 11 25 81	0 0 2 0 0 0 0 0 0 0 8 18
Year	53	31	45	100	July 21	-18	Dec. 13	12.89	1.48	July 30-31	44. 4	72	45	48	71	3.7	4.2	sw.	89	sw.	Мг. 9	13	189	124	52	61	22	?	27	51	27	178	28

^{*} Also on 4th and 21st.

COMPARATIVE DATA AND EXTREMES

,	Temperature Precipitation						n		Relative humidity, per cent			Sunshine		wind (4-cup standard))	Average number of days														
Month	Average daily maximum	Average daily minimum	Ауегаде	Absolute highest	Year	Absolute lowest	Year	Average total	Greatest in 24 hoors	Year	Average snowfall	Greatest snowfall in 24 hours	Year	6 a. m.	Noon-local time	6 p. m.	Total hours	Per cent	Average hourly velocity	Prevailing direction	Highest velocity	Direction highest velocity	Year	Clear	Partly Cloudy	Cloudy	Rain, .01 or more	Snow, (trace or more)	Thunderstorms	e fog	Max. temp. 90° or above	Minimum temp. 32° or below	Minimum temp.
Length of record, years	89	89	39	39	39	39	39	39	39	39	39	39	39	89	12	39	27	27	39	39	39	39	39	39	39	39	39	39	39	89	39	39	39
January February March April May June July August Sept. October Nov	45 55 64 76 84 82 72 58	5 9 19 29 38 45 51 49 40 80 18	18 22 32 42 51 60 67 68 56 44 30	64 64 71 82 88 96 90 90 83 72 62	1915 1890 1910 1919 1918 1925 1909 1908 1917 1894 1917	-39 -35 -24 -3 13 26 32 25 7 -14 -31 -40	1930 1899 1906 1918 1903 1899 1921 1916 1895 1917 1596 1924	0.56 0.63 1.19 2.06 2.26 1.15 0.69 0.53 0.92 1.36 0.68	1. 92 0. 81 1. 90 3. 45 3. 66 2. 10 1. 93 1. 70 3. 31 2. 04 1. 69 0. 98	1910 1911 1903 1895 1924 1915 1892 1930 1923 1908 1919 1908	5.4 12.9 12.8 12.9 12.8 10.0 1.9 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	12.0 18.0 17.4 14.4 15.4 0.0	1919 1913 1903 1921 1912 1898 1895 1920 1919 1901	76 76 74 73 72 68 66 70 78 74 77	62 60 57 49 44 83 36 35 39 46 63	63 60 50 44 40 32 81 32 37 49 59 65	195 203 265 265 290 846 845 820 202 206 178	66 70 72 66 64 74 74 70 65 68 62	3.9 5.5 5.5 5.5 5.4 4.4 3.8 3.4	5W. 5W. 5W. 5W. 5W. 5W. 5W. 5W. 5W.	64 64 64 65 62 58 64 48 64 64 64	W. 5W. 5W. 5W. 5W. 5W. 5W. 5W. 5W. 5W. 5	1913 1917 1594 1921 1927 1926 1923 1922 1914 1912 1914	12 10 10 9 9 12 13 14 13 11 13	14 13 14 13 15 14 16 15 11 12 9 13	5 5 7 8 7 4 8 8 5 6 10 5	457896655664	6 7 9 7 3 0 0 1 4 5 6	0 0 1 2 4 5 5 2 0*	0* 0* 0* 0 0 0 0 0 0 0* 1	0 0 0 0 0 1 5 3 0 0	31 28 29 19 6 0* 0* 4 20 28 30	10 7 2 0 0 0 0 0 0 0
Averages and extremes	56.6	28.4	42. 5	100	July 1925	-10	Dec. 1924	12. 63	3.68	May 1924	69.5	27. 2	Oct. 1920	72	49	47	260	68	4.5	×w.	74	я₩.	1914	13⊀	159	68	71	48	19	2	9	195	23

*Less than one.

·	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct	Nov.	Dec.	Year
1891								65. 5	56.7	42.6	29.6	21.5	
1892	16.8	25.8	34, 4	37.4	46.8	57.4	166. 3	64.6	59.0	44.2	33.6	15, 8	41.8
1893	26.4	19, 2	28.8		49.0							26.8	42.2
1894	17, 7	12.6			51.2	60.0	66.8		.52.9	45.8	36.8	20, 4	42.5
1895	18.4	19.5			51.1		63.6	61.8		743.2	25, 1	18.7	41.0
1898	24.6		28.4	39.4			68.0		53. 8	¹ 43.5	25.1	27.4	43.0
1897	15.0				57.6			64.9	58.2	45.0	34.6	15.9	42.6
1898	10.6	27.9		45, 3		59.8	66.1	65.6	55.4	39.4	80.0	15.5	40.9
1899	21.4	9.2	26,8	43, 3	43.6	58.2	66.2		58.6		37.5	19.8	41.2
1900	28.2	18.0		42.8	55.5	65.8	65.2			46.0		26.5	44.9
1901	23.6	16.8	34.0		57. 2	58.2 61.6	71. à			47.7		21.7	44 2
1902	18.9	29. 2	31.0	41.8	53.9					46.2		22. 6	43.4
1903	23.0	16.0	30, 1	41, 4	49.0		65. 3	66.3	51.6	46. 6		22.4	42.2
1904	20.4	29.4	33.8		51.0			65.4	56.8		36.0	23.6	44. 2
1905	20.0	18.3						66.6		38.6		12.3	41.2
1906	17.0	25.8	19, 8	36.5	51.3			65.0	57.4	43.8		29. 2	42.1
1907	19.4				46.3		66.0	63.2	56.2	43. 1		19.3	43.1
1908	20.0	22.8	30.8	45.5	48.4	55.9			56.7	40.8		19.1	41.6
1909	24.4	24.5							56. 4	45.0		3.7	41.6
1910	11.8		43.0	48.4	52.3	63.8	69. 1	64.2	57.0	47.4		26.6	44. 3
1911 1912	28.1	18.5			51.9		64.8		56.2	10.1		12.2	41.8
1912	18.0	20.4		41.1	49.2				47.6	40.4		20.8	89.9
1913	20.6	10.2	27.6	44.6	53.4	62.1	66.4	69.2	55.2	40. 4	33.9	10.6	41.2
1914	23. 6.	22. 7						66. 4 64. 4	57.4	47.2		15.2	44.4
1915	19.3	30. 8	33.4	51.1	19.0 47.7	55. 4 60. 2		65.9	54.0 55.6	48.6 40.4	34.2 23.4	$\frac{22.9}{12.2}$	43.8 40.9
1916	8.6			43.5			71.8		57. 8	42.6		30. 2	42.4
1917	13.5	23.6		$38.0 \\ 36.6$	45.8 49.4				56.0	18.8		20. 9	43.4
1918	16.8	$\begin{bmatrix} 24.6 \\ 23.3 \end{bmatrix}$			55.4	6G. 1	78.0		59.8	83.1		14.2	43. 2
1919	22.2 20.2	20.2	23. 0		51.6		68.2		56. 4		18.8	16.0	40, 2
1920, .	20.8	27.8	38.2	39.4	51.0				55.1	50.4		18.4	45.0
1921 1922	7.4	16.2	29.6	37.8	51.8		68.0		61.3			21.6	41.4
1923	27.0		28.2	41.2			71.2		56.4	37.0	23.0	17.0	41.2
1924	12.2	25. 8	23.4	40, 5	50.3		67.6		55.4	45.5	35.1	11.1	41. 1
1925	20.8		37.4	46.0	54.8				56.7	37.5		24.4	44.8
1926	14.4		32, 0		54.6				52.0	47.2	35.7	13.5	43, 9
192	21.2	27.2	31.8	41.0	50.0	61.8	67.6	62.1	55.0	47.6	37.1	14.2	43.0
1928	23.2	22. 3	34,4	39.8	55.6		68.0	65.0	57.0	42.5	27.4	11.0	41.9
1929	10.6	12.2	32.4	40.4	50.6		71.2	71,5	53.6	45.6	19.0	29, 1	41.4
1930	3.0	84, 2	30.8	50.5	50.7	61.6	70.4			43.8		21.6	43.7
1931	24.8	29.3	33. 1	43.6	51.8	66.4	71.7	67.8	59.8	47.5	27.2	13.2	44.7
												~	
Nor-			- ;	- ; [- 1				-	`.,	
mals	18.3	22.5	32.4	42.4	51.2	60.5	67.4	65.5	55.	43.5	30.3	20.4	42.5

Killing Frosts

J							
Year	Last in spring	First In autumn	Length of growing sea- son, in days	Year	Last in spring	First in cutumn	Length of growing sea- son, in days
1892 1893 1894 1895 1896 1896 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909	June 4 May 27 May 10 June 18 May 9 April 22 June 14 April 12 June 6 April 23 May 23 May 12 May 8 May 3 May 19 May 19 May 19 May 28	Sept. 11 Sept. 13 Sept. 4 Sept. 4 Sept. 7 Sept. 7 Sept. 17 Sept. 7 Aug. 23 Sept. 14 Sept. 19 Sept. 14 Oct. 1 Oct. 1 Oct. 1 Aug. 31 Sept. 19 Aug. 25 Sept. 8		1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931	May 10	Sept. 30 Sept. 20 Sept. 12 Sept. 28 Sept. 11 Sept. 26 Oct. 7 Oct. 7 Sept. 17 Sept. 18 Sept. 28 Sept. 28 Sept. 29 Sept. 19 Sept. 29 Sept. 10 Sept. 24 Sept. 24 Sept. 24	123 139 121 143 110 104 141 151 115 138 127 124 140 136 152 139 123 78 102 123

Average date of last in spring, May 18.
Average date of first in autumn, September 18.
Average duration of growing season, 122 days.
Latest date of last in spring, June 20, 1929.
Earliest date of first in autumn, August, 23, 1899.
Maximum duration of the growing season, from April 12, 1900, to October 7, 1900; 177 days.
Minimum duration of the growing season, from June 14, 1899, to August 23, 1899; 70 days.

Monthly and Annual Precipitation

	Jan. Feb. Mar, Apr. May June July Aug. Sept Oct. Nov. Dec. Yea												
	Jan.	Feb.	Mar,	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Year
1891 .							.,	1.00	0.77	1.50	0.76	0.56	
1892	0.75	0.45	1.25	4.16	3.44	1.18	2.05		0.06	1.03	1, 15	1.60	17.98
1393	0.02				1.57		0. 12.	0.92					10, 98
1894	0.49	0.92		0.75	1,22	0.51	1.09	0.11	2, 29				11.10
1395	0.68		1.17	5.71	1,32	1.90	0.19	1,04					17, 26
1896	0.24	0.26		1,20	1.76	0.12	3,00		1.08			T,	12, 32
1897	0.23		1 32		1.26		1.21	1.04					11, 21
1898	0.38		2.73		6.02		0.67	0.62				0.69	17.99
1899	0.88			0.49	2, 15	0.82	0.46	0.08				0.94	10.15
1900	T	1.06		7, 19	0.51	0.39	0.52	0.89			0.33	0.90	14, 23
1901	0.16				3. 13	1. 87	T.	0.58				1.87	12.82
1902	0.18		0.77	1, 43	1.23	0.93	0.29	0.06	0.75			0.25	7, 25
1903	0.25		2.25	2.41	1.86		0.21	0, 19	2.58			0, 94	14.08
1904	0.56				4.49	2.29	1.31	0.24	0, 39			0.49	14, 84
1905	0.23			2.55	3. 13	0.88	0.47	0.57	1, 11	1.52	1.82	0.55	14, 14
1906.	0.63		3,56	2, 29	3.49	0.14	1,01	1.26	0, 67	2.04	0.41	0.92	16, 67
1907	0.48			1.19	2.67	1.25	0.51	0.69	0.58	0.40	0.49	1.14	10.50
1908 .	0.59	1.52	1,49	1.57	3, 66	1.50	0.40	1, 52			0.71	1.03	19.22
1909	0.43	0.11	2.34	2.01	1.44	0.64	0.81	1. \$3	0.76	0.55	1.42		14, 05
1910	2.06	0.39	0.59	1.30	1.91	0.46	0.67	0.86	1.21	0.37	Т.	1.	9.32
1911	0.23			0.88	0.93	2.04	1.03	0, 22			0.68	0,84	10.37
1912	0.36		1.55	1.64	2.62	1.36	0.96	0.52				0.40	20.00
1913	0.49	1,49	1.24	2, 23	1.20	1.00				1.71	0.51	1.05	13, 48
3914	0.08	0.76					0.50			0.42			8.32
1915	0.44						0.75						18, 32
1916	1.03	0.40	1.62		1.51	0.19						1, 37	10.25
1917	0.74	[0.89]	0.72		5.26		T.	0.31				0, 42	12.85
1918	1.02	0.72			1.98] 1. ສາ	0.60		1.03				13, 18
1919	0.00							0.31	1.01				12, 42
1920	1.08							0.23				0.79	17.21
1921	0.28			2, 73			0.38	0.30	0.13			1.67	15.44
1922	1, 13											0.03	12.58
1923	0.41						2.26					0.48	21.56
1924	0.64		2.33		6.06							1, 47	14, 87
1925	0.04		0.18									0, 87	8.66
1926	1.06									0.51		0.86	10.82
1927	0.31												14.57
1923	0.31				2.04	2.96		0.24				0.16	15.10
1929	0.15				1.84								13.95
1930	0.54											6, 10	17. Ot
1931	T.	0.77	0.85	1.82	2.20	0.44	2.10	0.59	1.73	1, 62	0,77	_T.	12. 59
Nor-				- - -		{		-	"-	""			
mais	0.56	0,63	1, 19	2.08	2.26	1.15	0, 69	0.53	0.92	1.36	0.60	0.68	12.63
	4.3 0	,										<u></u>	×2. VI

Seasonal Snowfall

1893-93 T. 2.2 5.7 6.6 4.9 9.2 32.9 2.6 0 0 0 64.1	Season	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1893-94	1900-02					т-	15.5	19.4	21.4	6.5		<u> </u>
1894-95			99	K	6.6			20.2	2 5			
1895-96		٠ <u>٠</u> ٠. أ	T	37								
1896-97. 0 6.7 8.0 T. 2.3 11.1 13.8 10.5 0 0 52.4 1897-98. 0 10.3 4.4 12.9 3.3 T. 26.6 6.9 27.1 15.4 106.3 1898-99. 0 15.4 2.5 6.9 8.8 5.7 16.5 4.8 3.0 T. 6.9 8.8 5.7 16.5 4.8 3.0 T. 6.9 9.4 T. 10.6 3.1 32.7 0 0 66.6 1900-01. 12.0 4.8 3.8 9.0 1.4 9.4 3.8 2.8 0 0 7.2 0 66.6 0 7.7 8.0 0 0 7.6 6.0 0 7.7 8.0 2.0 0 4.0 1.0 1.1 9.0 4.0 1.0 1.0 4.0 1.0 1.0 1.0 4.0 1.0 1.0 1.0 1.0 3.0 1.0 1.0 </td <td></td> <td></td> <td></td> <td>28.0</td> <td>i π.</td> <td></td> <td>2.6</td> <td></td> <td></td> <td></td> <td></td> <td></td>				28.0	i π.		2.6					
1897-98			6.7		Ť.		11.1	13.8				
1899-00	1897-98				12.9		T.			27. Ĭ		106 9
1899-00						8.8	5.7	16.5	4.8	3.0		
1900-01 12.0	1899-00.	0	9.8			T	10.6	3, 1		0		65.6
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		12.0	4.8			1.4		3.8	28.6			72.3
1902-03. T.	1901-02.	0	T.		16, 5	1.8		7.7	8.0	2.0	0	40.0
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		(τ.	0				8.2	22.2	16.9	4.1	0	-57.0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			0.6			5.6	6.3		1.8	0,6	0	57.1
1908-07						2, 3	2.4	10.5	15,6	7,4		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$								35. 2	9,7.	8.0		91.2
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				4.1	8.2	4.8	0.9			15.8		72.0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$						0.9	10.2	16. 4		0.0		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$										1.0		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		U. L			20.4 m				11.0	4.0		84.0
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		I'			11.7	5.9				16.0		33.8
$\begin{array}{cccccccccccccccccccccccccccccccccccc$					6.7	9.2			10 4			30.0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1912-10.		10.0		12 0	0.6						93.3
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1910-14.	9.5				5.2	9.8	15.0				09.7
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1015_16	, m			10.8		4.0	18.0	RÃ	2 6		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		m ⁻			14 6				20.0			101.0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1017-19	1 6	80				R. 4		22.0	2 1		68 8
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1918_10	íň	Ϊ̈́		12.2							34.0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$					5.7		23.5	3.5				
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$					9.3				21.0			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$					16.7			6.0	31.8			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$					0.8	8.9	8.1	18.8		2.8		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1923-24.			5.0	6.0		2.1		11.6		Т.	91.1
1925-26, 3, 4 12.7 10.4 9.9 11.9 9.6 16.9 1.3 0 0 68.1 1926-27. T. 2.8 1.3 9.5 3.8 14.4 3.7 34.1 2.6 0 71.7 1927-28. 1.0 1.4 2.2 7.0 3.1 17.2 4.7 9.5 T. 0 46.1 1928-29. 0 27.6 26.2 1.7 2.2 8.5 9.9 19.5 3.8 0 99.4 1929-30. 4.0 10.9 13.0 4.8 5.2 4.5 11.2 0 3.4 0 57.0 1930-31. 0 1.5 0.2 1.4 T. 8.4 8.5 15.3 0.2 0 35.5 1931-32. 2.1 2.6 7.2 0.1 11.4 6.9 4.5		1.4			16.9	0.4	T.		0.2	2.2	0	24.0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1925-26.	3.4		10.4			2.6		1.3]		0	68.1
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$					9.5	3.3	14.4	3.7				71.7
1930-31. 0 1.5 0.2 1.4 T. 8.4 8.5 15.3 0.2 0 35.5 1931-32. 2.1 2.6 7.2 0.1 11.4 6.9 4.5					7.0	3.1				T.		
1930-31. 0 1.5 0.2 1.4 T. 8.4 8.5 15.3 0.2 0 35.5 1931-32. 2.1 2.6 7.2 0.1 11.4 6.9 4.5					1.7	2.2	8.5	9.9				
1931-32. 2.1 2.6 7.2 0.1 11.4 6.9 4.5						5.2						
									15.3	0.2	0 }	35,5
	1931-32.	Z. 1	2,6	1.2		11.4		4.0		·····		
Av 1.9 8.9 7.6 7.9 5.0 8.4 12.2 12.9 4.3 0.4 69.6	Av	1.9	8.9	7.6	7.9	5.0	B. 4	12.2	12.9	4. 3	0.4	69. 5
WBO, LINCOLN - 5-9-32-400								WBO,	Lincol	м – 5 -9	-32-40	