Range Cattle Research and Education Center January 2026

Research Report RC-2026-1

CLIMATOLOGICAL REPORT 2025
Range Cattle Research and Education Center

Brent Sellers

Weather conditions strongly influence agricultural operations from planting through harvesting. Knowledge of annual rainfall and temperature cycles, along with their extremes, help producers determine optimum times to prepare and plant seedbeds, fertilize pastures, apply herbicides, control water, and supplement cattle on pasture or range. Weather conditions influence forage seed germination, growth and development, palatability, and nutritive value.

This research report presents a summary of weather conditions observed during 2025 at the Range Cattle Research and Education Center (RCREC), Ona, Florida. The center is located 81^{o} 56.406' W and 27^{o} 23.733' N in south central Florida approximately 45 miles (72 km) east of the Gulf of Mexico and 100 miles (160 km) west of the Atlantic Ocean. Weather observations were collected with a Weather Watch 2000 (Campbell Scientific, Inc.) from 1997 until 2005. Beginning in 2006, observations were collected using the Florida Automated Weather Network (FAWN). Measurements reported prior to 2006 were recorded at 0900 h; thus, data on a given day represented the previous 24-hour period. Beginning in 2006, measurements were recorded for an entire 24-h period beginning at midnight.

Daily observations of rainfall, temperature, and solar radiation are summarized in Table 1. These data are then compared to an 84-year summary of rainfall data and an 82-year summary of temperature data collected at this location. In addition, monthly evapotranspiration and freeze hazard information are reported.

Table 1. Daily maximum and minimum temperature, precipitation, and solar radiation for 2025, Range Cattle REC.

	January				February				March				April			
Day	Max °F	Min °F	Rain inch	S Rad MJ/m²	Max °F	Min °F	Rain inch	S Rad MJ/m²	Max °F	Min °F	Rain inch	S Rad MJ/m²	Max °F	Min °F	Rain inch	S Rad MJ/m²
1	78.89	47.73	0.01	15.52	72.95	59.05	0.01	4.80	76.82	46.25	0.00	16.58	93.00	64.40	0.02	20.65
2	71.65	40.71	0.00	13.86	83.50	63.75	0.00	8.62	80.44	51.49	0.00	21.53	90.97	64.45	0.01	20.45
3	72.07	38.48	0.00	16.02	84.72	62.64	0.00	9.98	80.78	49.39	0.00	19.48	91.47	67.10	0.06	19.95
4	68.76	39.33	0.00	16.39	86.90	61.97	0.21	14.03	81.54	54.36	0.00	18.67	92.10	67.26	0.00	21.95
5	76.28	36.53	0.00	15.14	87.94	59.49	0.00	16.01	82.53	60.46	0.00	8.58	90.70	63.61	0.00	19.83
6	79.09	46.45	0.01	11.20	85.33	54.30	0.00	16.10	68.68	44.19	0.00	23.53	91.63	65.19	0.00	22.24
7	57.69	41.47	0.00	14.87	83.82	54.43	0.00	16.79	80.96	34.78	0.00	22.94	89.28	64.72	0.00	19.03
8	60.98	37.43	0.00	10.74	85.89	54.00	0.00	17.42	82.78	40.73	0.00	22.20	75.15	59.61	0.07	7.56
9	61.03	37.06	0.03	16.66	86.72	52.02	0.00	16.59	83.82	56.41	0.00	17.14	81.41	54.57	0.00	26.68
10	73.56	37.23	0.00	12.46	86.52	54.73	0.00	13.61	74.10	58.48	0.55	8.40	86.52	53.76	0.00	22.91
11	66.72	47.21	0.05	4.88	86.04	62.78	0.00	16.31	77.83	47.12	0.00	24.02	85.51	54.82	0.00	25.77
12	69.04	39.11	0.00	16.23	87.76	55.58	0.00	16.67	80.67	41.11	0.00	24.33	77.45	48.31	0.06	27.24
13	82.29	46.37	0.01	12.99	89.06	64.87	0.00	15.45	80.69	43.98	0.00	21.42	82.51	42.38	0.00	27.35
14	67.87	47.16	0.01	10.08	82.45	63.68	0.00	14.62	83.66	47.44	0.00	23.36	88.41	49.57	0.00	26.05
15	66.45	46.09	0.00	9.07	87.17	64.92	0.00	18.64	88.41	60.30	0.00	21.87	83.37	52.52	0.00	23.11
16	66.11	49.12	0.00	6.92	84.33	63.79	0.00	13.80	87.28	67.78	0.00	13.91	86.81	52.83	0.00	26.62
17	71.11	52.81	0.00	9.64	78.13	50.34	0.00	20.52	74.57	46.17	0.05	24.54	88.34	49.89	0.00	26.83
18	77.92	61.36	0.00	10.58	84.34	51.69	0.00	15.37	80.94	39.00	0.00	25.57	88.03	53.80	0.00	24.93
19	81.28	54.09	0.16	6.58	82.35	61.65	0.00	11.91	85.06	38.01	0.00	25.20	86.58	58.86	0.00	23.95
20	61.27	46.60	0.00	11.59	70.03	50.54	0.00	13.91	81.63	43.48	0.00	23.40	89.08	56.48	0.00	26.90
21	57.63	43.13	0.73	2.12	70.18	41.17	0.00	20.35	72.70	46.98	0.00	25.84	89.73	56.82	0.00	25.68
22	50.05	41.70	0.28	4.99	75.90	46.45	0.00	14.64	78.75	37.10	0.00	24.84	89.20	59.25	0.00	22.17
23	48.70	42.25	0.19	3.46	80.89	47.05	0.00	20.80	83.03	47.66	0.00	18.55	90.61	58.53	0.00	22.84
24	59.32	37.74	0.01	15.69	71.92	59.81	1.64	4.52	86.13	54.48	0.00	17.93	90.27	56.95	0.00	26.47
25	68.83	31.55	0.00	17.99	72.64	54.88	0.02	13.51	85.28	60.82	0.03	14.00	90.48	61.52	0.00	26.34
26	75.00	44.85	0.00	16.92	82.62	48.81	0.00	21.11	87.51	56.70	0.00	24.63	91.36	59.63	0.00	26.91
27	77.59	45.90	0.00	17.67	83.05	54.79	0.00	19.83	87.30	53.02	0.00	24.49	93.24	61.11	0.00	27.11
28	77.59	45.80	0.00	13.84	80.87	50.85	0.00	20.93	83.88	53.96	0.00	22.43	92.25	58.19	0.00	26.67
29	75.85	47.25	0.00	14.86					84.63	57.49	0.02	18.69	89.51	62.94	0.00	21.03
30	82.33	47.98	0.00	17.20					89.51	66.97	0.00	18.12	89.40	55.26	0.00	27.99
31	85.32	53.58	0.00	17.80					91.90	61.43	0.00	21.64				
Avg	69.94	44.32	0.05	12.39	81.93	56.07	0.07	15.24	82.06	50.57	0.02	20.58	88.15	57.81	0.01	23.77
Max	85.32	61.36	0.73	17.99	89.06	64.92	1.64	21.11	91.90	67.78	0.55	25.84	93.24	67.26	0.07	27.99
Min	48.70	31.55	0.00	2.12	70.03	41.17	0.00	4.52	68.38	34.78	0.00	8.40	75.15	42.38	0.00	7.56
Total			1.49	383.94			1.88	426.83			0.65	637.84			0.22	713.20

Table 1. Continued.

	May				June				July				August			
Day	Max °F	Min °F	Rain inch	S Rad MJ/m^2	Max °F	Min °F	Rain inch	S Rad MJ/m^2	Max °F	Min °F	Rain inch	S Rad MJ/m^2	Max °F	Min °F	Rain inch	S Rad MJ/m^2
1	89.80	56.44	0.00	22.21	88.34	69.17	0.25	22.24	91.87	66.83	0.00	23.43	95.94	74.95	0.10	18.81
2	91.00	57.15	0.00	25.63	76.30	69.44	1.86	4.62	86.88	68.54	0.97	13.12	92.93	73.67	0.01	19.62
3	91.02	62.40	0.00	22.41	87.21	67.23	0.14	16.48	87.98	72.25	0.04	14.95	93.69	73.31	0.01	21.23
4	88.74	65.37	0.06	16.41	79.90	68.77	1.00	7.06	87.60	73.00	0.00	14.43	94.03	73.90	0.00	20.73
5	92.35	60.80	0.00	21.39	90.73	71.47	0.01	18.38	89.49	72.34	0.34	15.48	96.98	70.38	0.04	21.45
6	93.69	61.86	0.02	21.12	93.42	69.84	0.00	24.59	90.34	71.26	0.00	22.02	96.57	72.64	0.07	18.71
7	94.51	67.23	0.00	22.83	92.91	70.38	0.00	23.01	92.53	72.72	0.00	21.84	92.41	71.10	0.05	21.42
8	92.08	67.24	0.15	22.35	91.85	68.41	0.00	23.01	95.07	70.72	0.00	24.20	90.59	72.82	0.00	19.92
9	94.59	64.89	0.01	21.77	93.29	69.22	0.00	22.68	95.70	69.49	2.15	25.78	91.40	72.88	0.27	14.05
10	89.47	67.50	0.00	15.03	92.57	69.62	0.00	25.77	95.27	70.88	0.05	25.15	86.29	73.71	0.01	15.10
11	92.62	67.95	0.00	11.12	92.95	69.39	0.41	20.14	95.00	70.16	0.00	19.61	94.80	72.41	0.00	23.87
12	84.31	68.67	1.05	8.48	92.97	70.45	0.00	23.98	91.24	69.19	0.85	13.80	96.21	74.17	0.01	23.91
13	89.15	60.94	0.00	25.52	93.69	71.24	0.00	24.46	94.14	72.41	0.00	25.01	96.35	73.67	0.35	23.73
14	90.66	60.15	0.00	23.47	94.75	72.39	0.72	25.32	89.91	72.72	0.31	17.16	96.62	73.47	0.00	18.89
15	95.61	62.33	0.00	26.04	93.78	73.51	0.07	25.26	91.51	71.15	0.00	21.79	96.22	74.14	0.19	18.56
16	97.34	63.32	0.00	27.32	94.23	73.26	0.01	26.33	91.36	72.63	0.02	22.33	97.25	73.71	0.00	23.86
17	93.02	64.35	0.00	19.92	93.60	69.93	0.04	24.74	93.09	73.65	0.12	17.76	97.27	75.00	0.14	18.96
18	96.22	66.20	0.00	24.19	95.50	71.65	0.90	26.04	95.02	74.61	0.01	20.96	97.38	75.61	0.36	21.41
19	96.91	67.28	0.00	21.80	94.23	73.27	0.68	19.24	94.96	75.06	0.00	26.11	95.47	73.72	0.00	19.04
20	96.55	68.36	0.00	23.49	91.69	71.26	0.01	16.53	97.29	74.01	0.00	22.85	94.14	72.93	0.00	24.27
21	94.77	65.16	0.00	24.76	94.14	71.46	0.00	26.90	96.98	74.12	1.18	19.98	91.76	71.62	0.39	17.99
22	94.37	68.36	0.00	20.36	93.06	71.64	0.00	22.12	92.55	72.93	0.03	18.05	88.27	73.47	0.44	11.33
23	96.42	70.11	0.00	21.68	91.09	70.70	0.05	21.37	90.41	72.63	0.02	17.70	89.13	72.72	1.07	10.15
24	96.82	66.09	0.84	21.02	91.76	68.58	0.46	21.63	94.82	72.09	0.09	23.11	82.58	74.12	0.24	5.15
25	94.26	67.14	0.00	22.39	92.12	69.80	0.00	22.81	93.22	73.54	0.00	22.33	90.64	73.24	0.25	15.50
26	93.47	68.74	0.63	24.82	91.51	67.55	0.00	23.08	95.58	71.29	0.00	26.87	86.94	72.79	0.44	10.29
27	95.77	70.59	0.09	24.03	89.87	70.05	0.76	18.53	96.21	72.43	0.00	25.73	90.23	72.36	0.00	14.41
28	95.32	69.87	0.00	21.51	93.49	69.12	0.32	20.14	97.79	74.53	0.00	23.94	94.55	72.05	0.00	23.51
29	95.25	70.23	0.00	23.27	90.99	70.21	0.21	16.63	97.79	73.78	0.00	22.60	92.68	71.02	0.00	20.97
30	90.16	69.15	0.02	18.23	87.08	71.20	0.00	14.94	96.30	73.36	0.64	26.57	92.08	72.09	0.00	21.31
31	82.20	71.01	0.46	7.17					95.81	74.12	0.00	20.36	86.86	72.52	0.17	11.01
Avg	92.85	65.71	0.11	21.02	91.30	70.34	0.26	20.93	93.35	72.21	0.22	21.13	92.85	73.10	0.15	18.36
Max	97.34	71.01	1.05	27.32	95.50	73.51	1.86	26.90	97.79	75.06	2.15	26.87	97.38	75.61	1.07	24.27
Min	82.20	56.44	0.00	7.17	76.30	67.23	0.00	4.62	86.88	66.83	0.00	13.12	82.58	70.38	0.00	5.15
Total			3.33	651.74			7.90	628.02			6.82	655.02			4.61	569.14

Table 1. Continued.

	September				October				November				December			
Day	Max °F	Min °F	Rain inch	S Rad MJ/m^2	Max °F	Min °F	Rain inch	S Rad MJ/m^2	Max °F	Min °F	Rain inch	S Rad MJ/m^2	Max °F	Min °F	Rain inch	S Rad MJ/m^2
1	91.38	72.79	0.02	17.21	91.35	68.04	0.00	17.32	78.26	41.94	0.00	18.95	83.80	62.60	0.00	12.61
2	93.92	72.12	0.00	21.93	86.32	72.46	0.00	17.45	84.49	43.97	0.00	16.68	85.06	60.62	0.00	9.16
3	91.54	73.89	0.00	13.96	88.63	69.26	0.00	17.01	82.80	55.76	0.00	18.09	81.84	51.17	0.00	14.65
4	88.83	72.12	0.00	14.58	90.39	68.74	0.14	16.47	82.71	51.78	0.00	17.88	86.61	50.02	0.00	14.81
5	90.50	72.52	0.00	14.43	89.91	72.57	0.00	13.59	85.71	56.98	0.00	16.85	85.82	57.11	0.00	14.55
6	93.58	72.97	0.46	18.55	89.76	72.97	0.08	15.69	77.05	57.38	0.01	6.30	84.56	62.29	0.00	85.8.96
7	88.41	72.79	0.18	14.31	91.67	74.57	0.00	16.72	86.86	61.86	0.00	13.87	84.72	63.23	0.93	10.52
8	87.93	73.56	0.00	9.26	91.11	70.43	0.00	19.17	88.83	58.59	0.00	15.43	78.33	63.90	0.01	7.79
9	88.14	73.11	1.02	11.12	90.91	72.95	0.00	15.69	89.29	63.99	0.00	15.56	68.16	55.76	0.00	5.16
10	91.56	71.64	0.01	17.29	84.56	71.76	0.00	13.13	70.45	47.64	0.00	14.92	74.05	43.64	0.00	12.02
11	91.92	71.76	0.04	19.15	80.19	69.22	0.00	9.23	57.58	32.10	0.00	15.72	74.46	41.94	0.00	13.62
12	88.41	73.20	0.07	12.81	86.04	62.38	0.00	21.46	75.72	31.93	0.00	17.35	79.68	37.54	0.00	14.98
13	91.22	69.67	0.00	22.57	87.67	57.29	0.00	20.98	78.96	39.00	0.00	17.73	80.65	45.34	0.00	13.12
14	91.76	66.92	0.00	22.55	86.74	54.97	0.00	21.04	81.95	42.50	0.00	17.14	82.42	58.53	0.00	12.31
15	91.76	68.72	0.11	17.74	86.61	61.12	0.00	19.05	84.34	47.25	0.00	17.05	71.60	52.72	0.00	9.60
16	91.87	70.63	0.03	16.70	87.58	63.16	0.00	18.86	82.17	45.76	0.00	15.71	76.08	46.92	0.00	14.99
17	84.45	67.95	0.37	6.68	85.10	62.74	0.00	17.90	85.46	51.21	0.00	14.85	80.47	52.54	0.00	12.17
18	88.05	67.86	0.00	15.82	86.49	57.16	0.00	19.40	85.41	57.34	0.07	14.24	82.20	54.77	0.00	8.86
19	91.49	69.48	0.00	22.87	91.00	58.23	0.00	17.06	86.65	54.12	0.00	16.05	83.28	58.37	0.00	11.16
20	91.58	67.78	0.00	21.79	88.84	63.72	0.00	17.23	87.40	54.21	0.00	16.41	80.56	40.65	0.00	15.55
21	91.38	69.73	0.00	19.73	92.39	65.08	0.00	17.07	87.42	50.79	0.00	16.13	85.89	55.71	0.00	13.72
22	91.56	70.92	0.00	16.92	90.12	63.03	0.00	15.76	87.82	51.85	0.00	15.91	82.33	57.34	0.00	13.17
23	91.72	69.46	0.19	15.26	87.19	65.14	0.00	16.95	87.42	51.58	0.00	14.66	82.18	55.56	0.00	13.48
24	94.01	69.49	0.01	20.64	85.95	62.10	0.00	18.80	87.26	59.67	0.00	13.53	81.14	48.13	0.00	14.92
25	92.57	72.72	0.23	16.15	86.45	64.11	0.00	17.94	87.91	55.27	0.00	12.78	81.84	49.21	0.00	14.24
26	92.77	69.44	0.00	18.35	88.14	65.89	0.04	12.28	88.14	56.61	0.00	12.42	82.38	47.16	0.00	14.69
27	90.52	69.40	0.00	14.86	92.01	69.69	0.05	14.59	80.51	51.37	0.00	7.35	81.01	47.52	0.00	15.01
28	93.61	71.92	0.00	20.29	85.26	64.15	0.00	14.58	67.82	41.76	0.01	16.56	82.51	51.01	0.00	13.15
29	92.75	71.67	0.00	20.24	83.88	62.26	0.00	17.21	77.52	47.71	0.00	10.59	82.71	48.13	0.00	15.18
30	88.47	71.91	0.05	17.32	76.73	53.91	0.05	16.49	85.39	56.07	0.00	15.20	65.01	37.79	0.00	13.19
31					74.80	47.03	0.00	19.00					61.54	27.84	0.00	16.03
Avg	90.92	70.94	0.09	17.04	87.22	64.71	0.01	16.94	82.31	50.60	0.00	15.06	79.77	51.13	0.03	12.69
Max	94.01	73.89	1.02	22.87	92.39	74.57	0.14	21.46	89.29	63.99	0.07	18.95	86.61	63.90	0.93	16.03
Min	84.45	66.92	0.00	6.68	74.80	47.03	0.00	9.23	57.58	31.93	0.00	6.30	61.54	27.84	0.00	5.16
Total			2.79	511.09			0.36	525.11			0.09	451.90			0.94	393.37

Rainfall

Annual rainfall for 2025 totaled 31.08 inches, which was a record low and 21.62 inches lower than the 84-year average of 52.70 inches (Table 2). The previous lowest total annual rainfall was recorded in 2000 with 32.02 inches, and the greatest annual rainfall was recorded in 1959 with 78.82 inches. Daily rainfall events in 2025 equaled or exceeded 1 and 2 inches of rainfall on only 8 and 1 separate occasions, respectively, with a daily total rainfall maximum of 2.15 inches on 9 July (Table 1). Rainfall was below normal in all months with the greatest rainfall deficits occurring in August and September. This marks the third year in a row that total annual rainfall was below normal as total annual rainfall was 13.01 and 2.86 inches below normal in 2023 and 2024, respectively. Monthly rainfall during 2025 is graphically compared to the historical mean, median, maximum, and minimum monthly rainfall in Figure 1.

Table 2. Summary of rainfall by months. Range Cattle REC, 2025.

	1942 to 2025			2025	
Month	Maximum / month	Minimum / month	84-year average†	Total	Difference from 84-year average
	----------inches*				----------
January	8.45	0.03	2.13	1.49	- 0.64
February	9.59	0.02	2.41	1.88	- 0.53
March	12.34	0.01	2.81	0.65	- 2.16
April	11.91	0.00	2.44	0.22	- 2.22
May	13.55	0.00	3.75	3.33	- 0.42
June	18.99	2.79	8.53	7.90	- 0.63
July	19.74	1.87	8.18	6.82	- 1.36
August	16.10	3.13	8.45	4.61	- 3.84
September	28.74	0.89	7.37	2.79	- 4.58
October	11.23	0.00	2.85	0.36	- 2.49
November	11.22	0.07	1.85	0.09	- 1.76
December	8.61	0.07	1.93	0.94	- 0.99
Year total			*52.70*	*31.08*	*- 21.62*

*Inches x 2.54 = cm.

† Since rainfall records began in July 1942, means for January to June are 83-year means.

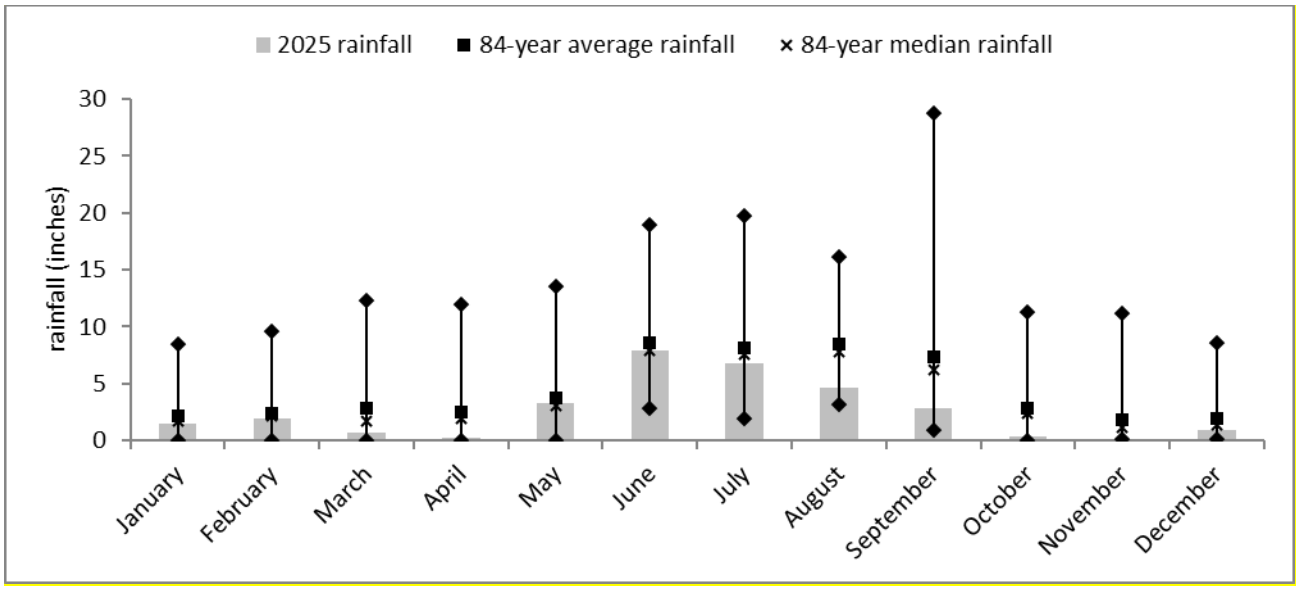

Figure 1. Monthly rainfall at the Range Cattle REC during 2025 relative to historical average, median, minimum, and maximum monthly rainfall. Current rainfall is indicated by the gray bars, historical average and median rainfall are indicated by squares (■) and "X's" (x), respectively. Historical high and low rainfall are indicated by diamonds (♦).

Evapotranspiration

Evapotranspiration is the total amount of water transferred from the earth to the atmosphere. Monthly evaporation in 2025 was 15.16 inches greater than rainfall received in 2025 (Table 3). Evapotranspiration exceeded rainfall in all months except for June and July. It is normal for evapotranspiration to exceed rainfall in January, February, March, and December.

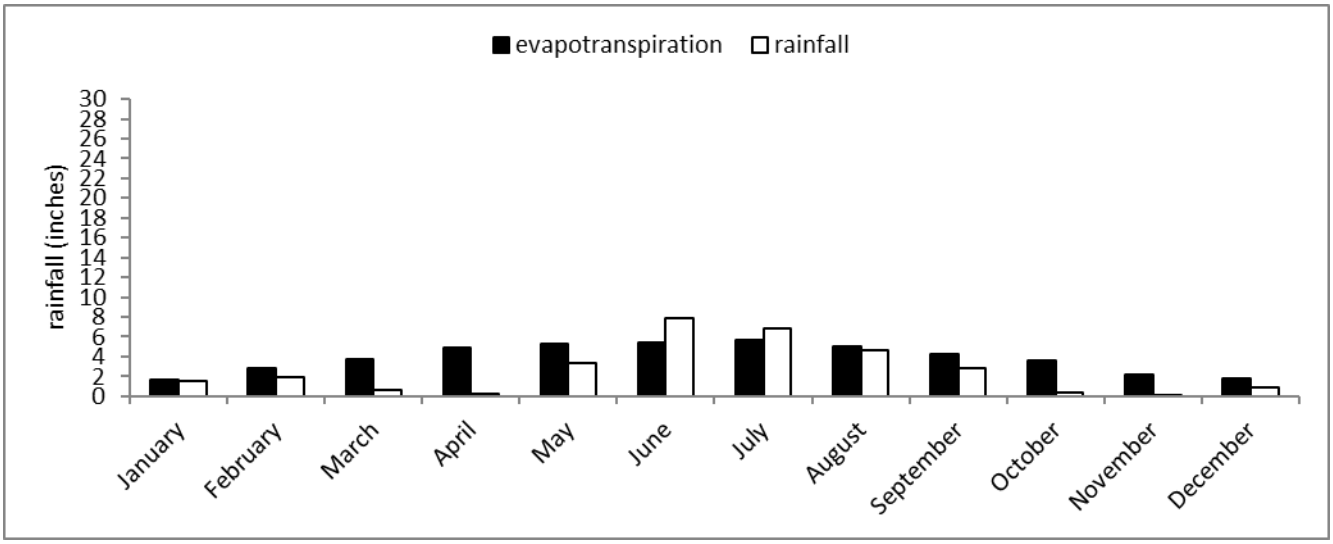

Figure 2. Comparison of monthly evapotranspiration and rainfall at the Range Cattle REC during 2025.

Solar Radiation

Total solar radiation for 2025 was 6557.19 MJ. Daily solar radiation is shown in Table 1, and 2025 total monthly solar radiation can be seen in Table 3. If soil water, temperature, and fertility are not limiting and vegetative cover is complete, 1 MJ results in about 14.3 lb/A of plant dry matter. Theoretically, enough solar radiation was received in April 2025 (713.20 MJ) to produce approximately 10,199 lb/A of plant dry matter.

Table 3. Monthly solar radiation and evapotranspiration at the Range Cattle REC in 2025.

	2006-2025	2025	2006-2025	2025
Month	Evapotranspiration		Solar radiation	
	--------inches--------		--------MJ/m^2--------	
January	1.87	1.72	405.73	383.94
February	2.56	2.77	456.45	426.83
March	3.51	3.76	634.42	637.84
April	4.32	4.96	713.87	713.20
May	5.27	5.33	765.39	651.74
June	4.94	5.36	652.48	628.02
July	4.85	5.65	655.28	655.02
August	4.67	4.98	595.64	569.14
September	4.06	4.25	537.26	511.09
October	3.24	3.54	503.19	525.11
November	2.07	2.19	400.03	451.90
December	1.61	1.73	372.38	393.37
Total	*42.97*	*46.24*	*6692.12*	*6557.19*

Temperature

The highest temperature observed during 2025 of 97.79° F occurred on 28 and 29 July (Table 1). Monthly average-high temperatures were at or exceeded the 82-year average in all months except for January (Table 4). Monthly average low temperatures were below the 82-year average in all months except February and May through August (Table 5). Daily low temperatures fell to less than 35° F five times, likely resulting in scattered frost. Temperatures fell below 32° F three times with the lowest temperature of 27.84° F occurring on 31 December (Table 1) and temperatures were below freezing for approximately 2 hours. Overall, mean low temperature for 2025 was 0.6 degrees lower than the 82-year mean.

Table 4. Summary of average maximum temperature* during 2025 by month, Range Cattle REC.

	Shelter†					Ground level‡	
	1944-2025	2025	1944-2025		2025	2025	
Month	Avg. high	Avg. high	Extreme high	Year	Extreme high	Avg. high	Extreme high
	----------°F----------					----------°F----------	
January	73.2	69.9	90.0	1982	85.3	64.2	72.8
February	75.7	81.9	91.0	1962	89.1	71.8	75.0
March	79.5	82.1	94.0	1946	91.9	71.3	77.5
April	83.8	88.1	97.0	1945	93.2	78.7	83.0
May	88.3	92.9	103.0	1945	97.3	83.7	87.3
June	90.2	91.3	103.0	1945	95.5	85.1	88.1
July	91.1	93.3	101.0	1972	97.8	86.2	88.7
August	91.2	92.8	99.5	2023	97.4	86.4	89.2
September	89.7	90.9	96.5	2023	94.0	83.8	86.0
October	85.2	87.2	96.5	2015	92.4	79.1	82.6
November	79.4	82.3	94.0	1990	89.3	71.8	76.7
December	74.8	79.8	89.0	1945	86.6	69.7	74.1
Average	*83.5*	*86.0*				*77.7*	

*°C = (°F – 32) x 0.555

† Prior to 2006, air temperature is measured using a thermometer in an instrument shelter designed to protect meteorological equipment from exposure to direct sunlight, precipitation, and condensation, while allowing for adequate ventilation so that the instruments measure environmental parameters accurately.

‡ Ground level temperature is measured with a soil probe, which measures the temperature 4 inches below the soil surface.

Table 5. Summary of minimum temperature* for 2025 by month, Range Cattle REC.

	Shelter†					Ground level‡	
	1944-2025	2025	1944-2025		2025	2025	
Month	Avg. low	Avg. low	Extreme low	Year	Extreme low	Avg. low	Extreme low
	ºF					ºF	
January	49.1	44.3	18.0	1981	31.6	59.1	50.7
February	51.0	56.1	23.8	2009	41.2	66.4	62.7
March	54.3	50.6	26.0	1980	34.8	65.2	61.0
April	58.3	57.8	34.0	1971	42.4	72.2	66.5
May	63.4	65.7	43.0	1945	56.4	77.5	73.3
June	69.3	70.3	52.0	1984	67.2	79.3	75.3
July	71.5	72.2	62.0	several	66.8	81.3	78.3
August	72.1	73.1	61.0	1977	70.4	81.6	78.7
September	71.3	70.9	51.0	1962	66.9	79.8	77.5
October	65.0	64.7	37.5	2008	47.0	75.7	69.3
November	57.1	50.6	25.0	1970	31.9	67.3	61.9
December	51.7	51.1	20.0	1962	27.8	65.7	59.0
Average	*61.2*	*60.6*				*72.6*	

*ºC = (ºF – 32) x 0.555

† Prior to 2006, air temperature is measured using a thermometer in an instrument shelter designed to protect meteorological equipment from exposure to direct sunlight, precipitation, and condensations, while allowing for adequate ventilation so that the instruments measure environmental parameters accurately.

‡ Ground level temperature is measured with a soil probe, which measures the temperature 4 inches below the soil surface.

Freeze hazard

The fall and spring freeze hazards for the Range Cattle REC are shown in Figure 3. The spring freeze hazard estimates the likelihood of temperatures reaching below the critical temperature after a selected date, while the fall freeze hazard estimates the likelihood of experiencing the first attainment of a critical temperature before a selected date. Based on records from 1964 to 2017, these data will not predict what will occur in a given year, but what can be expected over a period of years. In an example using the spring freeze hazard, one should expect approximately a 30% chance of a frost (assuming 35 ºF) occurring before the 1st of March (Figure 4C). A grower has a significant likelihood of experiencing three frosts over ten years after the 1st of March; however, the likelihood drops to approximately 10% by March 20th.

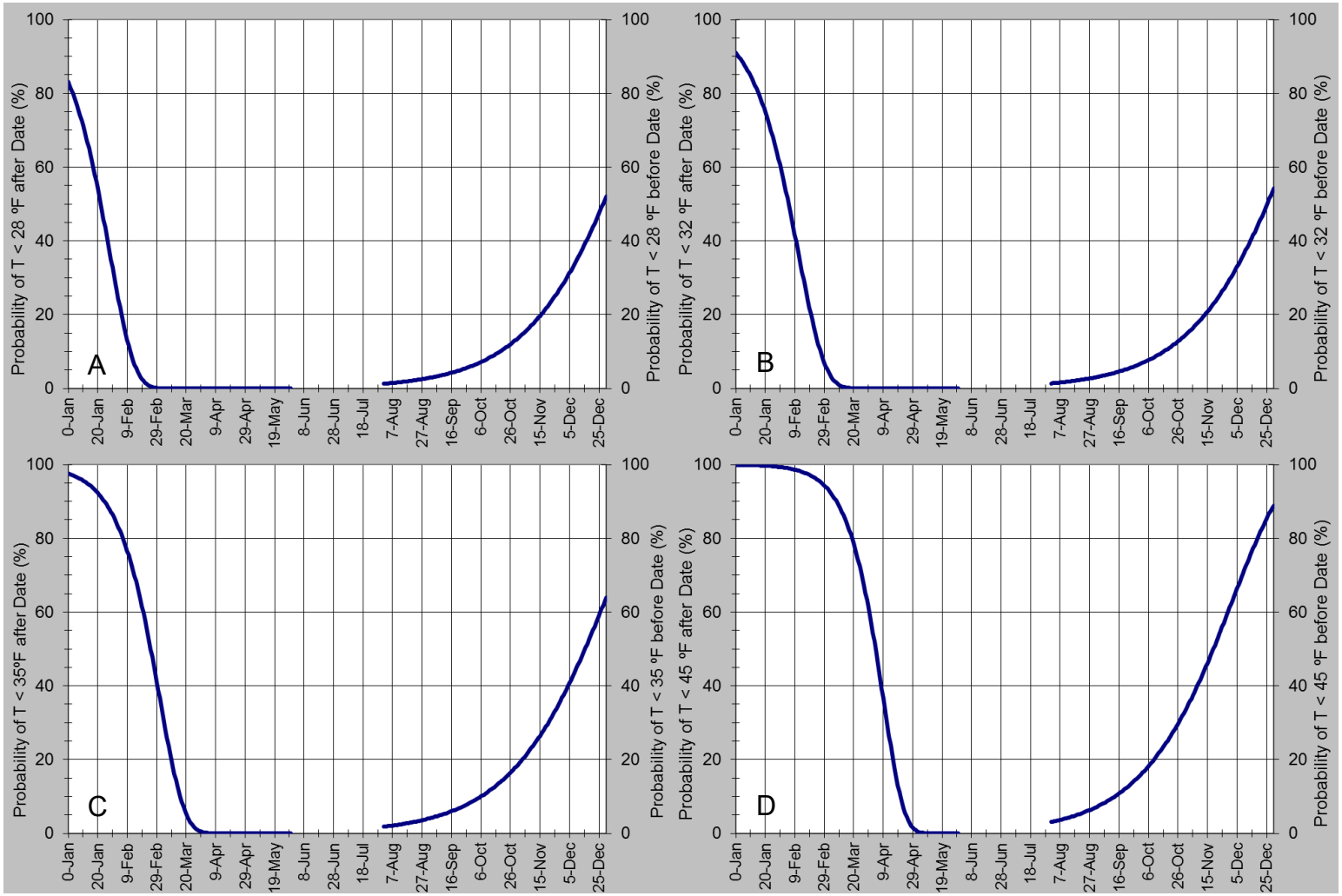

Figure 3. Spring and fall freeze hazard showing temperature probabilities after a given spring date and before a given fall date. Trend lines for temperature probabilities <28 ºF (A), <32 ºF (B), <35 ºF (C), and <45 ºF (D). Graphs were constructed using minimum temperature data from 1960 – 2010 using FRISKNH as developed by R. Snyder and J. Paulo de Melo-Abreu.