

Agronomic Weather — Baseline Comparison

Area: Manolada Strawberry Area - Greece | Years: 2026, 2025, 2024 | Months: Jan, Feb, Sep, Oct, Nov



Data source: Proprietary FoodCare AgroData meteorological station network (from 2024-01-01 to 2026-02-15).
Data processing was performed using the Weather_Data_Manager software developed in Python.
Statistical evaluation and narrative synthesis were generated on-the-fly via OpenAI APIs.

Data Completeness & Confidence

Month	2026	2025	2024
Jan	96.9%	96.9%	96.9%
Feb	93.6%	96.6%	96.7%
Sep	No data	65.6%	96.8%
Oct	No data	97.0%	97.0%
Nov	No data	96.8%	96.8%

Period completeness (focus year 2026): 95.8% | Confidence: OK (threshold 80%)

Solar metrics were excluded due to failing internal sanity validation (full hide).

Interpretation of Metrics

INTERPRETATION OF METRICS

This section described retrospective comparisons month-by-month for the focus year against the baseline mean.

RAINFALL (SUM) (mm)

- Jan 2026: 164.8 mm, baseline mean 92.6 (n=2), $\Delta=72.2$.
- Feb 2026: 154.2 mm, baseline mean 60.4 (n=2), $\Delta=93.8$.
- Sep 2026: No data.
- Oct 2026: No data.
- Nov 2026: No data.

WATER BALANCE (RAIN - ETO) (mm)

- Jan 2026: 123.7 mm, baseline mean 58.1 (n=2), $\Delta=65.6$.
- Feb 2026: 137.2 mm, baseline mean 17.4 (n=2), $\Delta=119.8$.
- Sep 2026: No data.
- Oct 2026: No data.
- Nov 2026: No data.

SUNSHINE DURATION (SUM) (h)

- Jan 2026: 5820 h, baseline mean 7290 (n=2), $\Delta=-1470$.
- Feb 2026: 3501 h, baseline mean 9288 (n=2), $\Delta=-5786$.
- Sep 2026: No data.
- Oct 2026: No data.
- Nov 2026: No data.

EVAPOTRANSPIRATION ETO (SUM) (mm)

- Jan 2026: 41.1 mm, baseline mean 34.5 (n=2), $\Delta=6.6$.
- Feb 2026: 17.0 mm, baseline mean 43.0 (n=2), $\Delta=-26.0$.
- Sep 2026: No data.
- Oct 2026: No data.
- Nov 2026: No data.

HOURLY GDD (SUM) (GDD)

- Jan 2026: 1710 GDD, baseline mean 1786 (n=2), $\Delta=-76$.
- Feb 2026: 969 GDD, baseline mean 1439 (n=2), $\Delta=-469$.
- Sep 2026: No data.
- Oct 2026: No data.
- Nov 2026: No data.

PTU (SUM) (PTU)

- Jan 2026: 593 PTU, baseline mean 870 (n=2), $\Delta=-277$.
- Feb 2026: 451 PTU, baseline mean 893 (n=2), $\Delta=-441$.
- Sep 2026: No data.
- Oct 2026: No data.
- Nov 2026: No data.

AIR TEMPERATURE (MEAN) (°C)

- Jan 2026: 11.3 °C, baseline mean 11.5 (n=2), $\Delta=-0.2$.
- Feb 2026: 12.7 °C, baseline mean 10.9 (n=2), $\Delta=1.8$.
- Sep 2026: No data.
- Oct 2026: No data.
- Nov 2026: No data.

RELATIVE HUMIDITY (MEAN) (%)

- Jan 2026: 74.5 %, baseline mean 78.8 (n=2), $\Delta=-4.3$.
- Feb 2026: 81.8 %, baseline mean 75.2 (n=2), $\Delta=6.6$.
- Sep 2026: No data.
- Oct 2026: No data.
- Nov 2026: No data.

WIND SPEED (MEAN) (m/s)

- Jan 2026: 3.79 m/s, baseline mean 2.85 (n=2),

Period Summary (selected months aggregated)

Focus year: **2026**. Baseline years: 2025, 2024

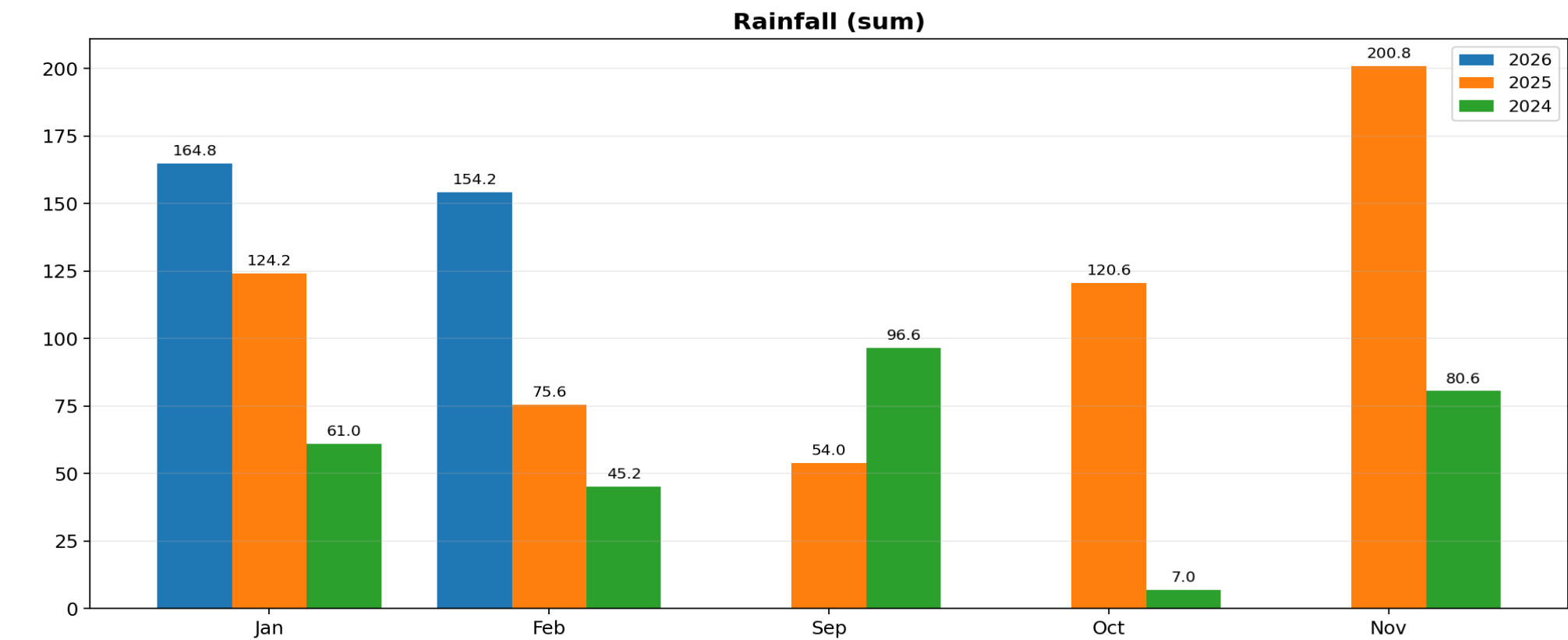
Metric	Unit	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Rainfall (sum)	mm	319.0	575.2	290.4	432.8	201.4	-113.8	-26.3	-0.57	2
Water Balance (Rain - ETo)	mm	260.9	324.0	-35.2	144.4	254.0	116.5	80.7	0.46	2
Sunshine Duration (sum)	h	9321	42258	53490	47874	7942	-38553	-80.5	-4.85	2
Evapotranspiration ETo (sum)	mm	58.1	251.2	325.6	288.4	52.6	-230.3	-79.9	-4.38	2
Hourly GDD (sum)	GDD	2679	19995	24110	22053	2910	-19374	-87.9	-6.66	2
PTU (sum)	PTU	1045	8929	12115	10522	2252	-9477	-90.1	-4.21	2
Air Temperature (mean)	°C	12.0	16.2	16.3	16.2	0.1	-4.2	-26.0	-51.01	2
Relative Humidity (mean)	%	78.1	74.9	72.9	73.9	1.4	4.2	5.7	2.98	2
Wind Speed (mean)	m/s	3.76	3.05	3.01	3.03	0.03	0.72	23.8	25.12	2
VPD (mean)	kPa	0.33	0.56	0.60	0.58	0.03	-0.25	-43.5	-8.64	2
VPD hours > 1.50 kPa	h	0	147	245	196	69	-196	-100.0	-2.83	2
Heat days (Tmax ≥ 35.0°C)	days	0	0	0	0	0	0	No data	No data	2
Frost days (Tmin ≤ 0.0°C)	days	1	0	2	1	1	0	0.0	0.00	2

Metric	Unit	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Chilling Units (Standard)	CU	102	169	288	228	84	-126	-55.4	-1.50	2
Chilling Units (Utah)	CU	257	-873	-1012	-942	98	1200	-127.3	12.20	2
Chilling Units (NC)	CU	113	-552	-749	-650	139	764	-117.4	5.48	2
Chilling Units (Gala)	CU	33	-981	-1141	-1061	113	1094	-103.1	9.67	2
Chilling Units (Strawberry Utah)	CU	277	-657	-840	-749	130	1026	-137.0	7.91	2
Chilling Units (Strawberry M1)	CU	-121	-1609	-1707	-1658	69	1537	-92.7	22.13	2
Chilling Units (Strawberry M2)	CU	221	181	51	116	92	105	90.2	1.14	2

Monthly Comparisons

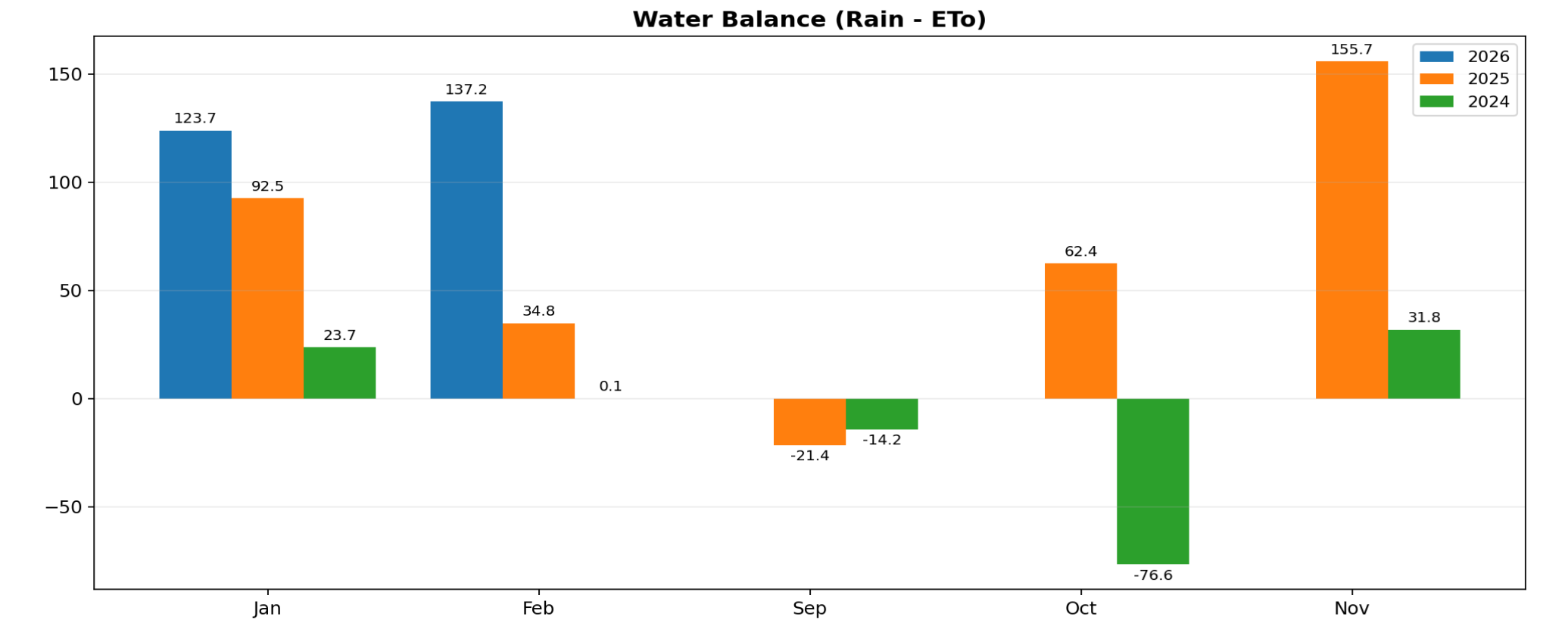
Rainfall (sum) (mm)

Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	164.8	124.2	61.0	92.6	44.7	72.2	78.0	1.62	2
Feb	154.2	75.6	45.2	60.4	21.5	93.8	155.3	4.36	2
Sep	No data	54.0	96.6	75.3	30.1	No data	No data	No data	2
Oct	No data	120.6	7.0	63.8	80.3	No data	No data	No data	2
Nov	No data	200.8	80.6	140.7	85.0	No data	No data	No data	2



Water Balance (Rain - ETo) (mm)

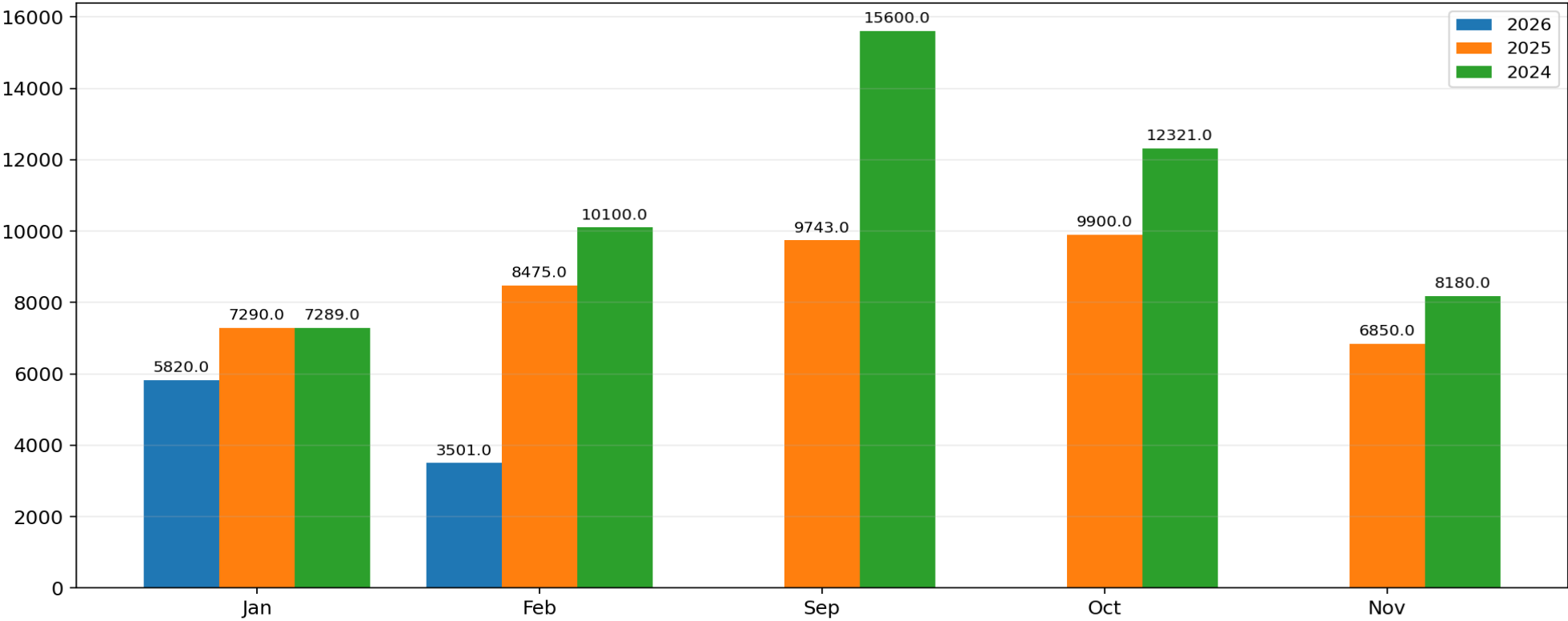
Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	123.7	92.5	23.7	58.1	48.6	65.6	112.9	1.35	2
Feb	137.2	34.8	0.1	17.4	24.5	119.8	686.2	4.88	2
Sep	No data	-21.4	-14.2	-17.8	5.1	No data	No data	No data	2
Oct	No data	62.4	-76.6	-7.1	98.3	No data	No data	No data	2
Nov	No data	155.7	31.8	93.8	87.6	No data	No data	No data	2



Sunshine Duration (sum) (h)

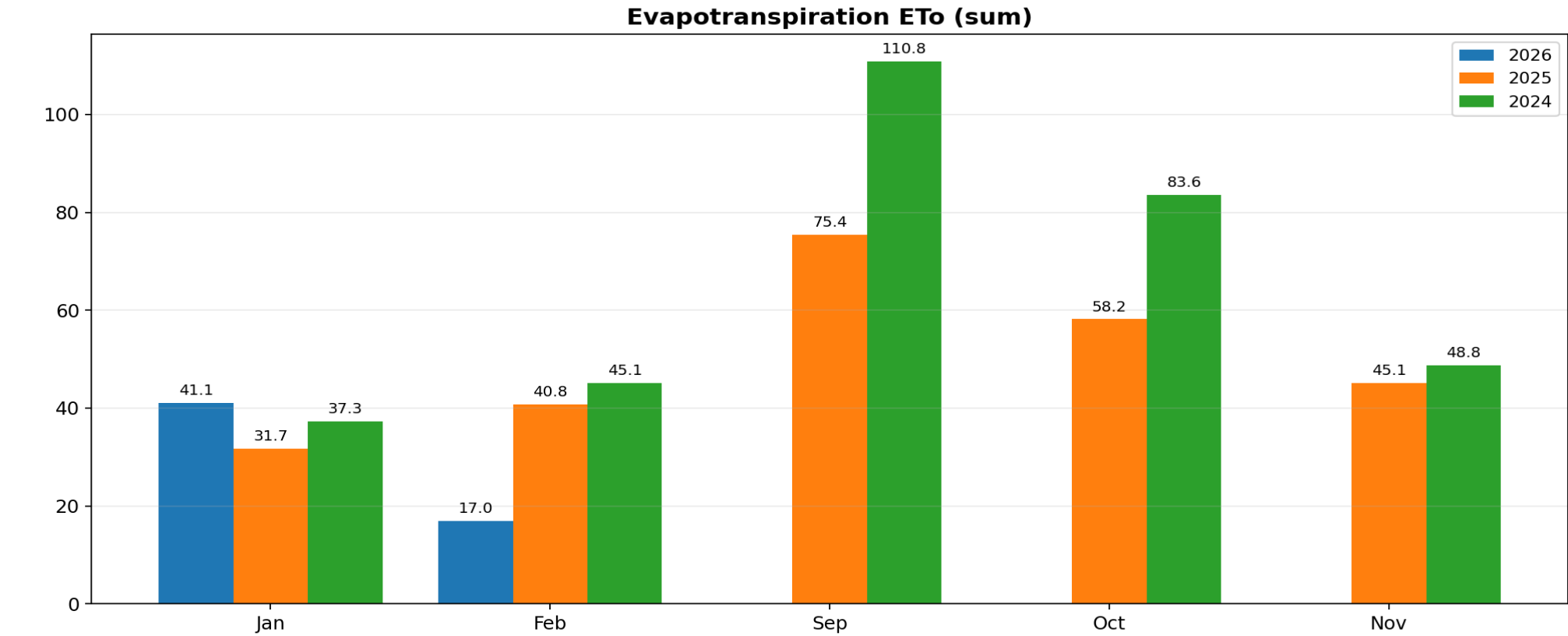
Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	5820	7290	7289	7290	1	-1470	-20.2	-2078.19	2
Feb	3501	8475	10100	9288	1149	-5786	-62.3	-5.04	2
Sep	No data	9743	15600	12672	4142	No data	No data	No data	2
Oct	No data	9900	12321	11110	1712	No data	No data	No data	2
Nov	No data	6850	8180	7515	940	No data	No data	No data	2

Sunshine Duration (sum)



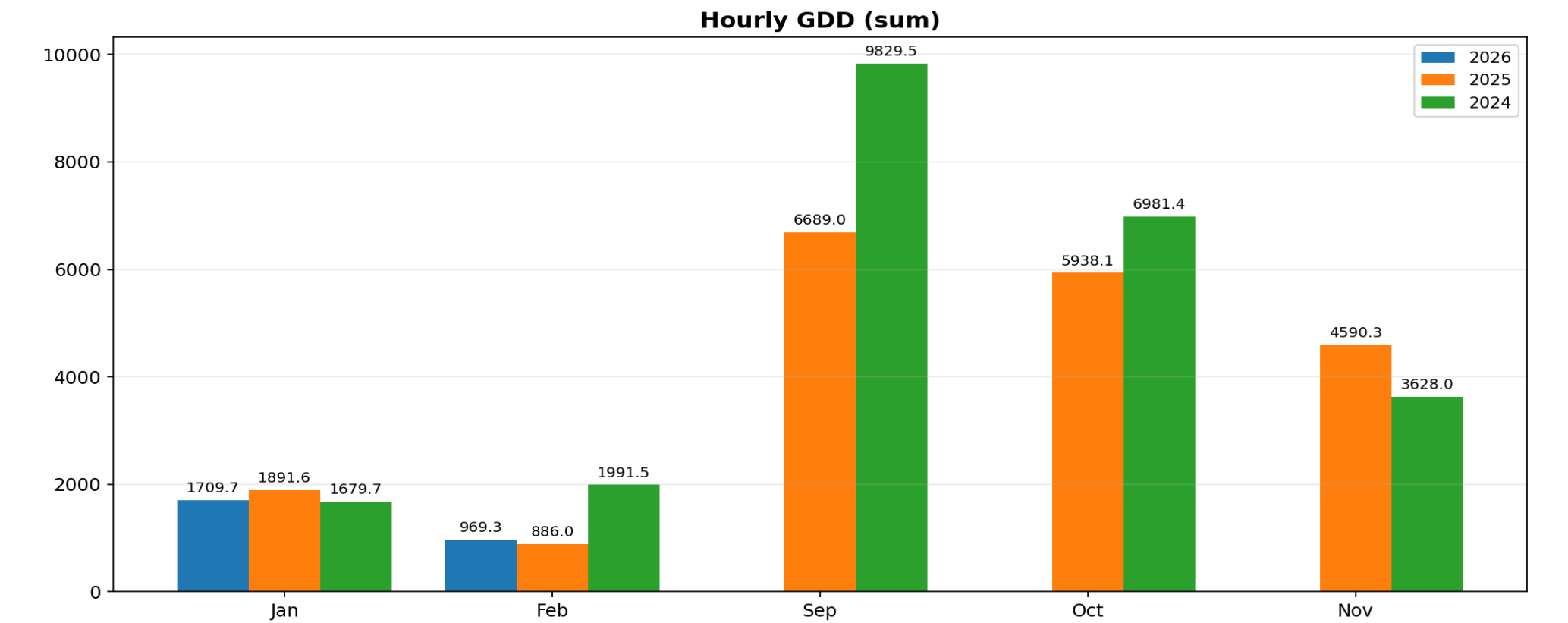
Evapotranspiration ETo (sum) (mm)

Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	41.1	31.7	37.3	34.5	4.0	6.6	19.1	1.67	2
Feb	17.0	40.8	45.1	43.0	3.0	-26.0	-60.4	-8.53	2
Sep	No data	75.4	110.8	93.1	25.0	No data	No data	No data	2
Oct	No data	58.2	83.6	70.9	18.0	No data	No data	No data	2
Nov	No data	45.1	48.8	47.0	2.6	No data	No data	No data	2



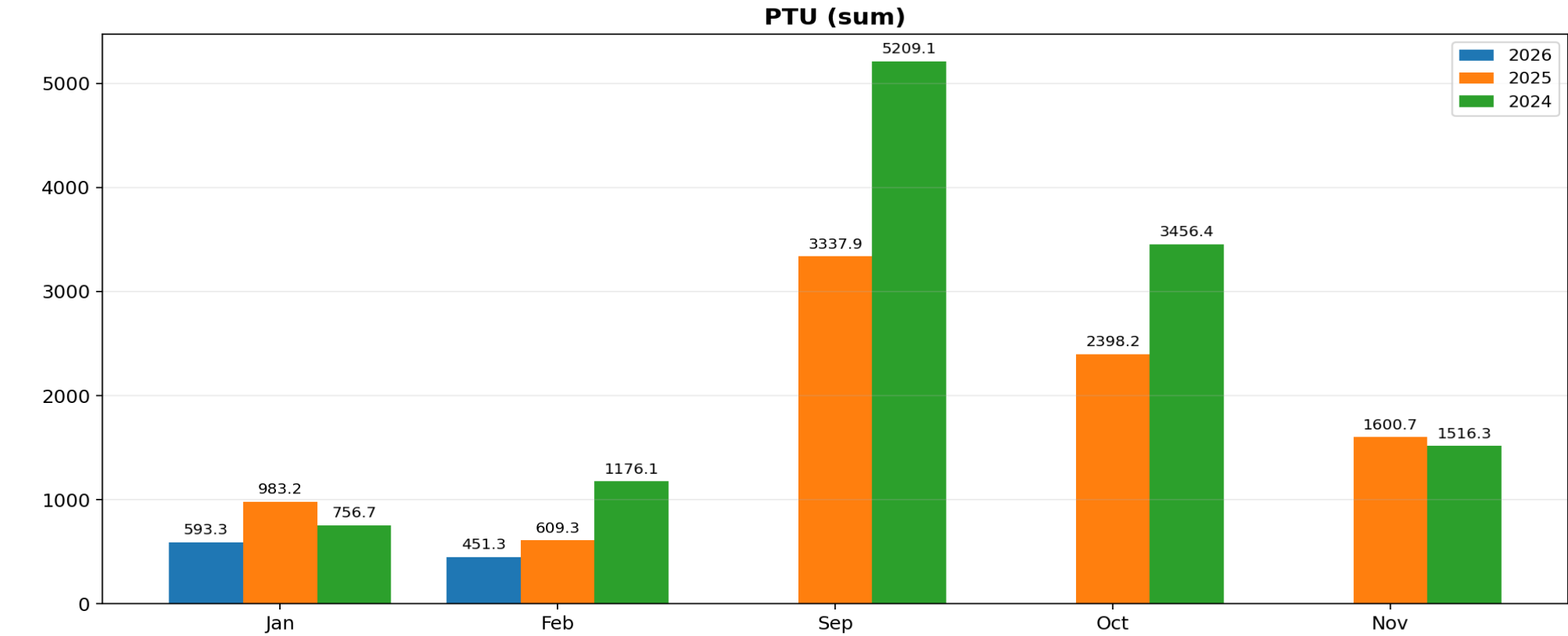
Hourly GDD (sum) (GDD)

Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	1710	1892	1680	1786	150	-76	-4.3	-0.51	2
Feb	969	886	1992	1439	782	-469	-32.6	-0.60	2
Sep	No data	6689	9830	8259	2221	No data	No data	No data	2
Oct	No data	5938	6981	6460	738	No data	No data	No data	2
Nov	No data	4590	3628	4109	680	No data	No data	No data	2



PTU (sum) (PTU)

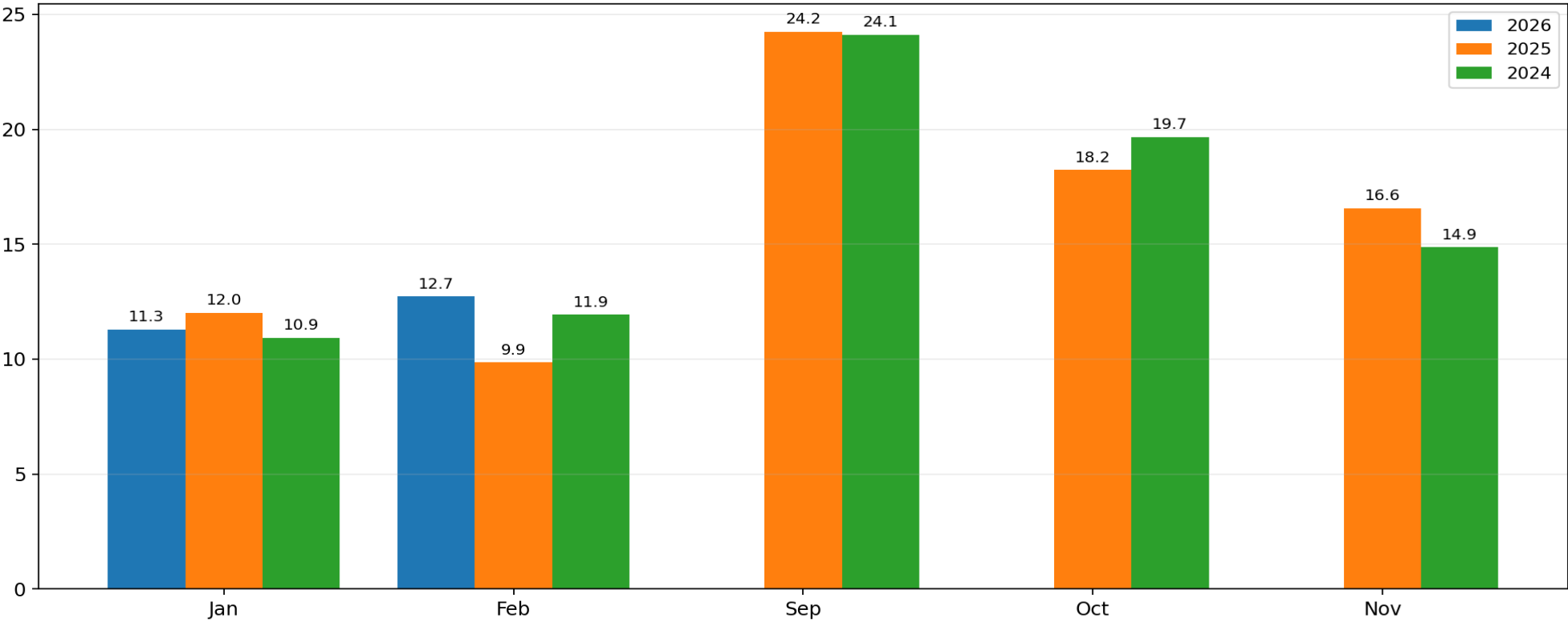
Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	593	983	757	870	160	-277	-31.8	-1.73	2
Feb	451	609	1176	893	401	-441	-49.4	-1.10	2
Sep	No data	3338	5209	4274	1323	No data	No data	No data	2
Oct	No data	2398	3456	2927	748	No data	No data	No data	2
Nov	No data	1601	1516	1558	60	No data	No data	No data	2



Air Temperature (mean) (°C)

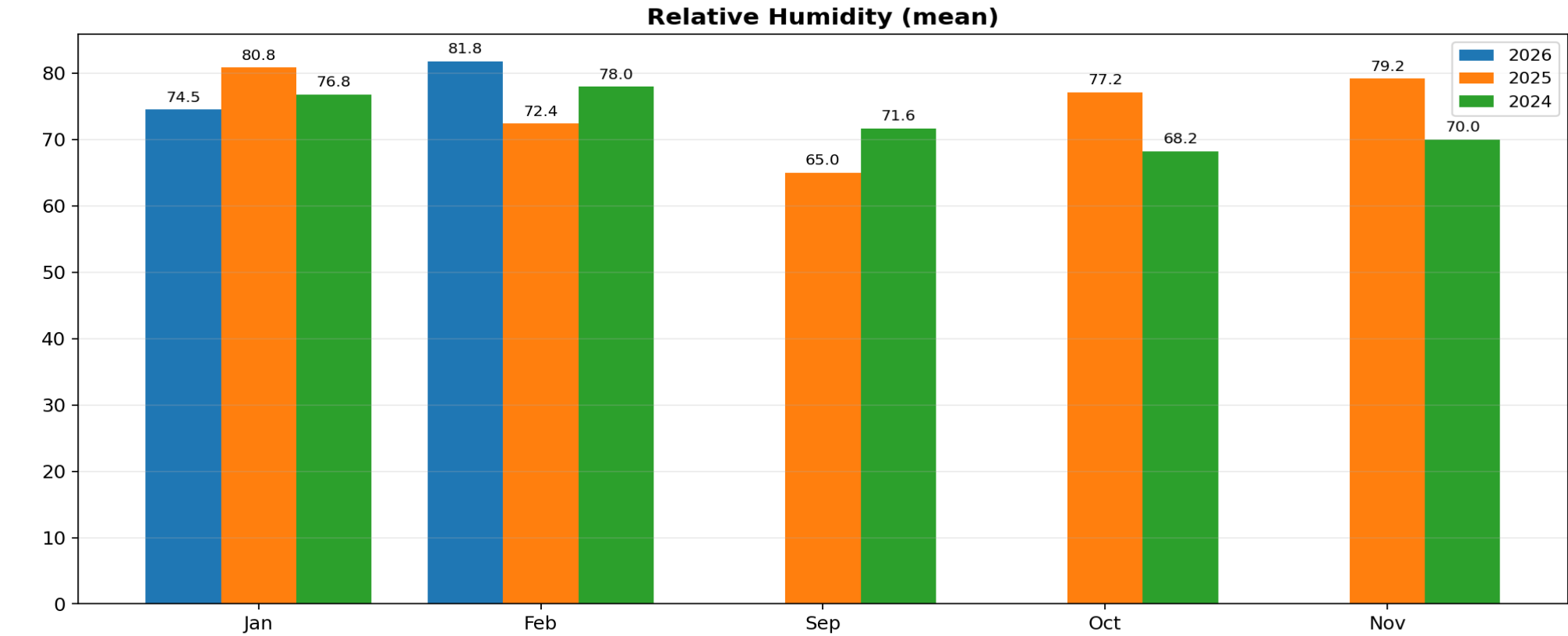
Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	11.3	12.0	10.9	11.5	0.8	-0.2	-1.5	-0.22	2
Feb	12.7	9.9	11.9	10.9	1.5	1.8	16.7	1.24	2
Sep	No data	24.2	24.1	24.2	0.1	No data	No data	No data	2
Oct	No data	18.2	19.7	18.9	1.0	No data	No data	No data	2
Nov	No data	16.6	14.9	15.7	1.2	No data	No data	No data	2

Air Temperature (mean)



Relative Humidity (mean) (%)

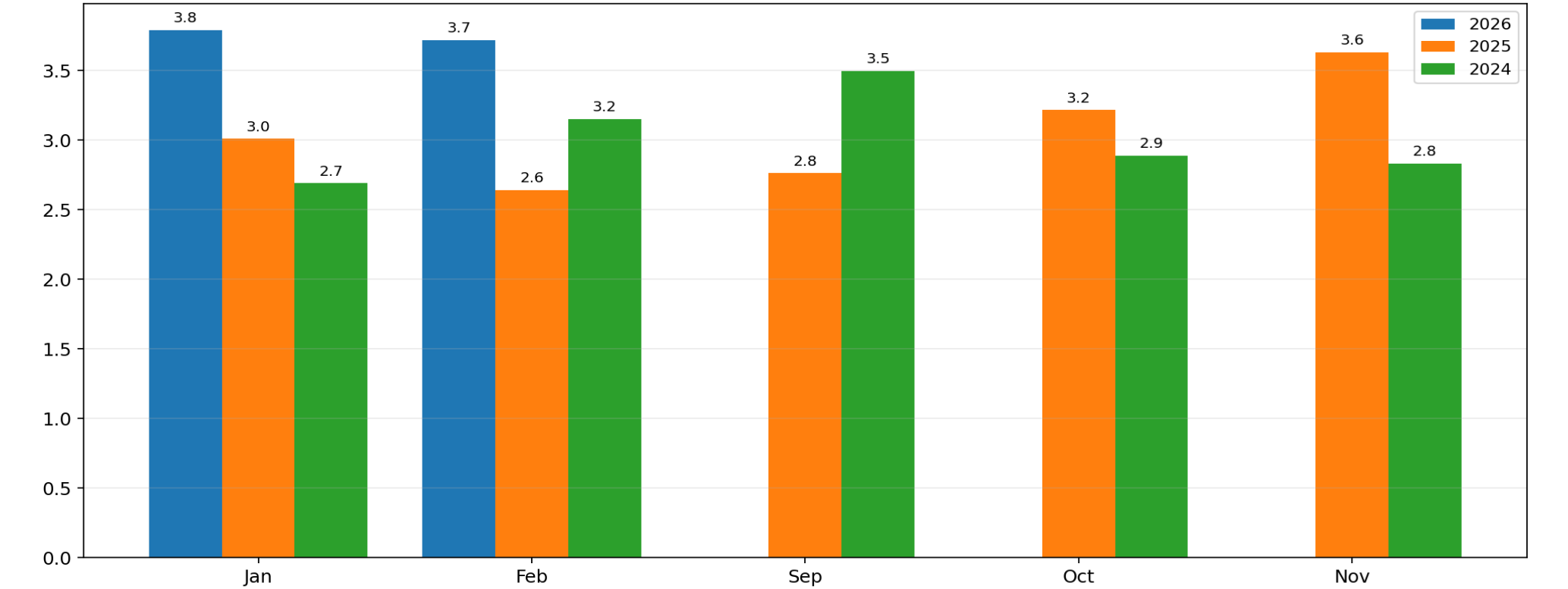
Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	74.5	80.8	76.8	78.8	2.9	-4.3	-5.4	-1.48	2
Feb	81.8	72.4	78.0	75.2	3.9	6.6	8.8	1.67	2
Sep	No data	65.0	71.6	68.3	4.7	No data	No data	No data	2
Oct	No data	77.2	68.2	72.7	6.3	No data	No data	No data	2
Nov	No data	79.2	70.0	74.6	6.5	No data	No data	No data	2



Wind Speed (mean) (m/s)

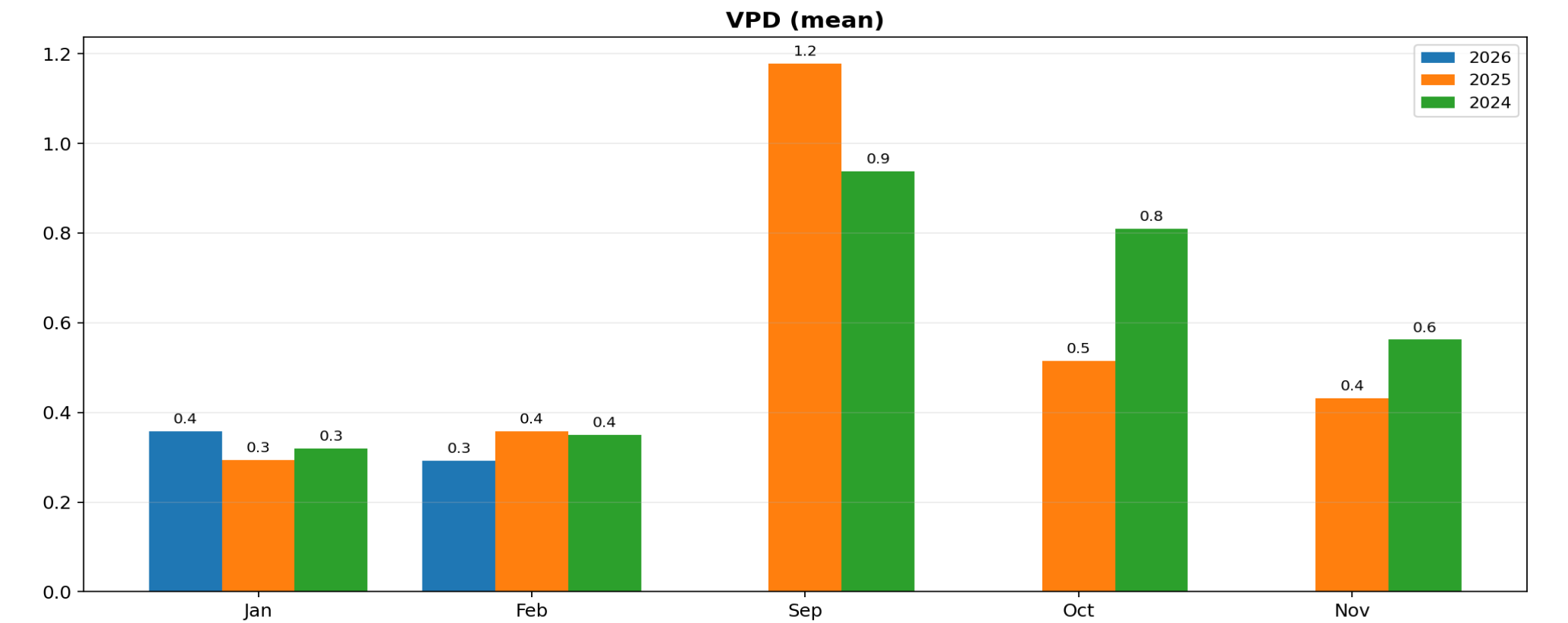
Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	3.79	3.01	2.69	2.85	0.23	0.94	33.0	4.16	2
Feb	3.72	2.64	3.15	2.90	0.36	0.82	28.4	2.29	2
Sep	No data	2.76	3.50	3.13	0.52	No data	No data	No data	2
Oct	No data	3.22	2.89	3.05	0.23	No data	No data	No data	2
Nov	No data	3.63	2.83	3.23	0.57	No data	No data	No data	2

Wind Speed (mean)



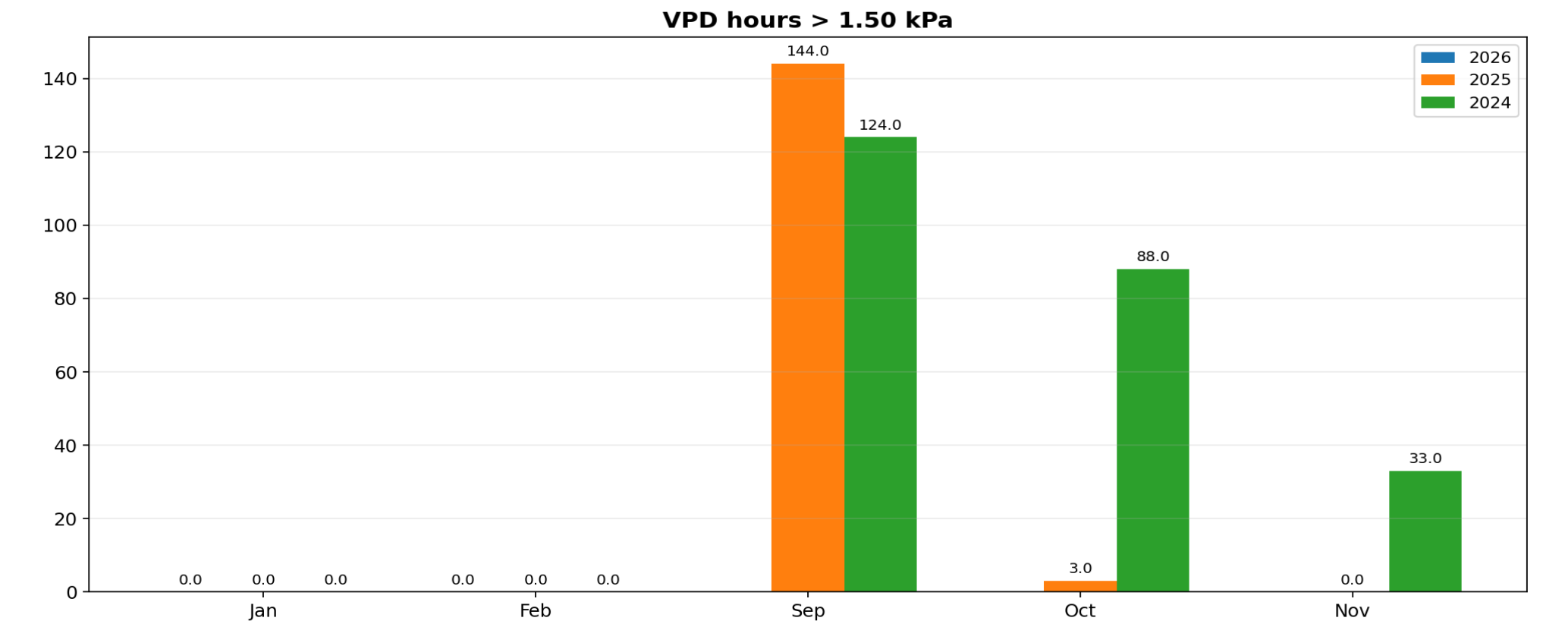
VPD (mean) (kPa)

Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	0.36	0.29	0.32	0.31	0.02	0.05	16.8	2.76	2
Feb	0.29	0.36	0.35	0.35	0.01	-0.06	-17.5	-11.29	2
Sep	No data	1.18	0.94	1.06	0.17	No data	No data	No data	2
Oct	No data	0.51	0.81	0.66	0.21	No data	No data	No data	2
Nov	No data	0.43	0.56	0.50	0.09	No data	No data	No data	2



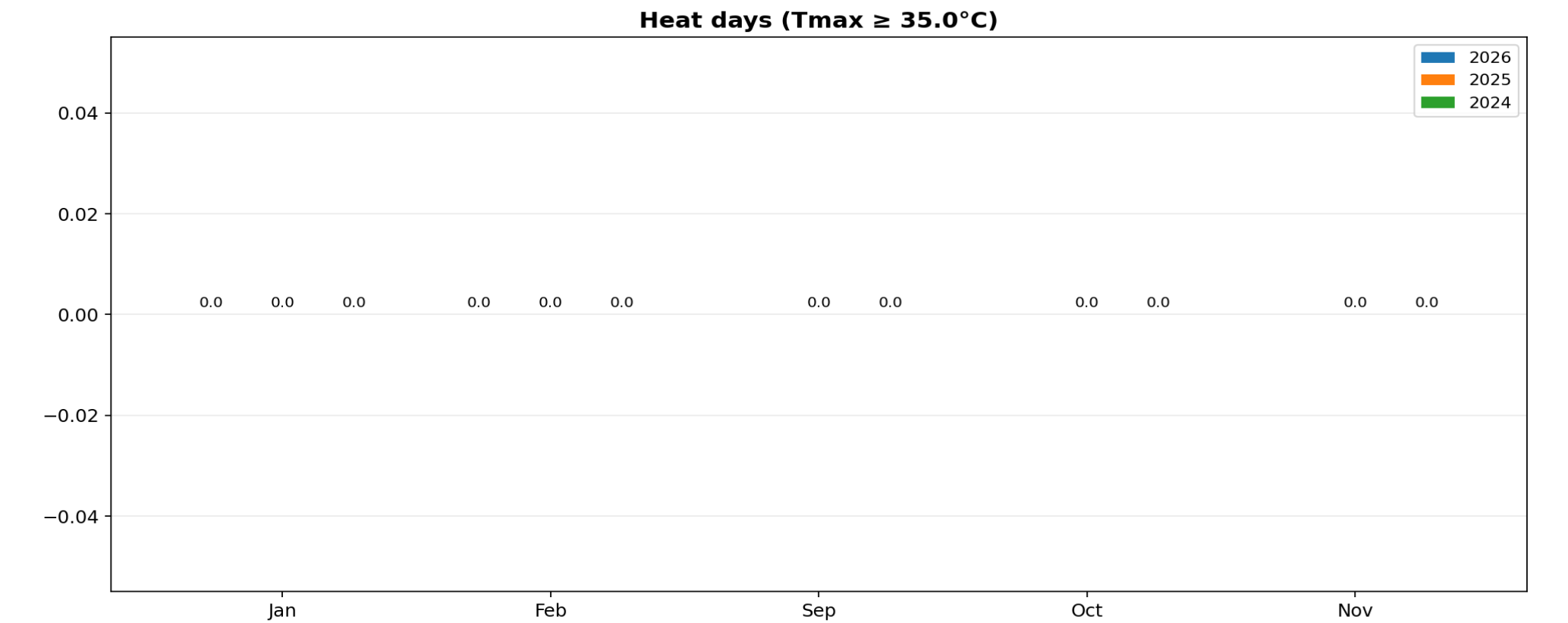
VPD hours > 1.50 kPa (h)

Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	0	0	0	0	0	0	No data	No data	2
Feb	0	0	0	0	0	0	No data	No data	2
Sep	No data	144	124	134	14	No data	No data	No data	2
Oct	No data	3	88	46	60	No data	No data	No data	2
Nov	No data	0	33	16	23	No data	No data	No data	2



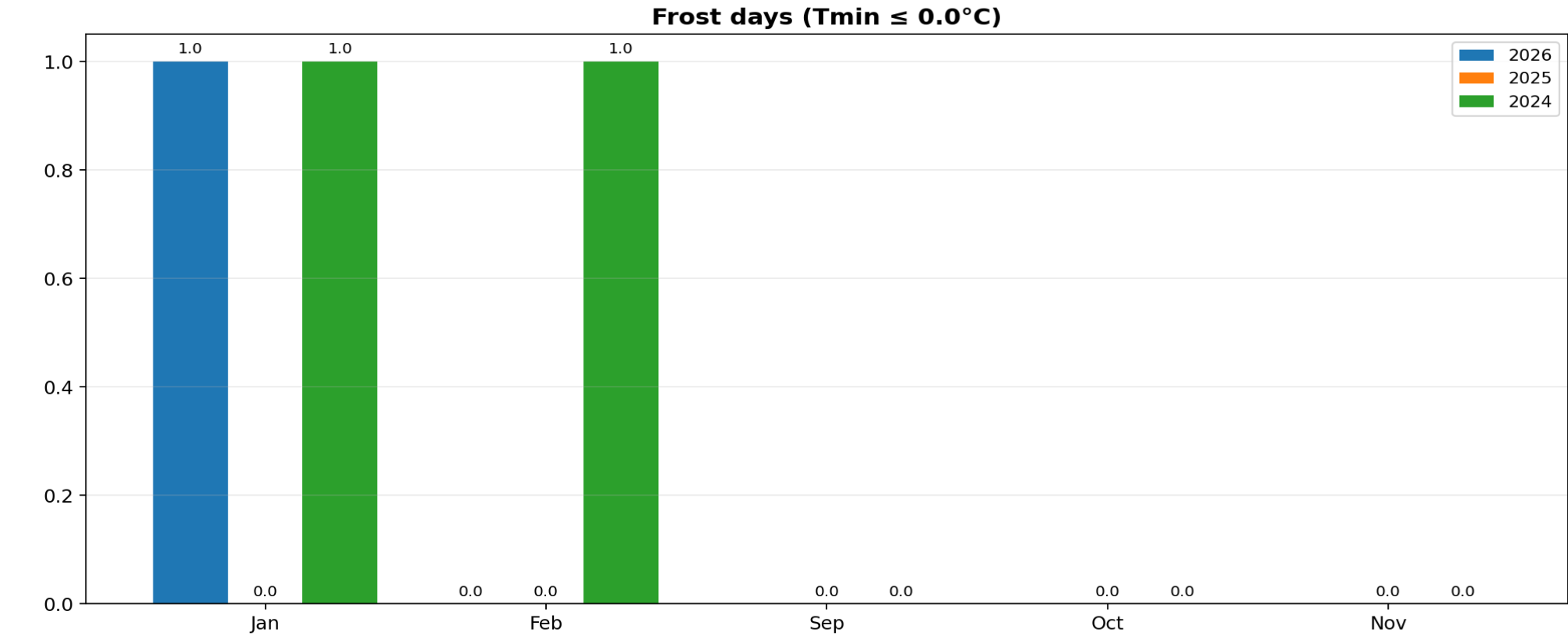
Heat days (Tmax ≥ 35.0°C) (days)

Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	0	0	0	0	0	0	No data	No data	2
Feb	0	0	0	0	0	0	No data	No data	2
Sep	No data	0	0	0	0	No data	No data	No data	2
Oct	No data	0	0	0	0	No data	No data	No data	2
Nov	No data	0	0	0	0	No data	No data	No data	2



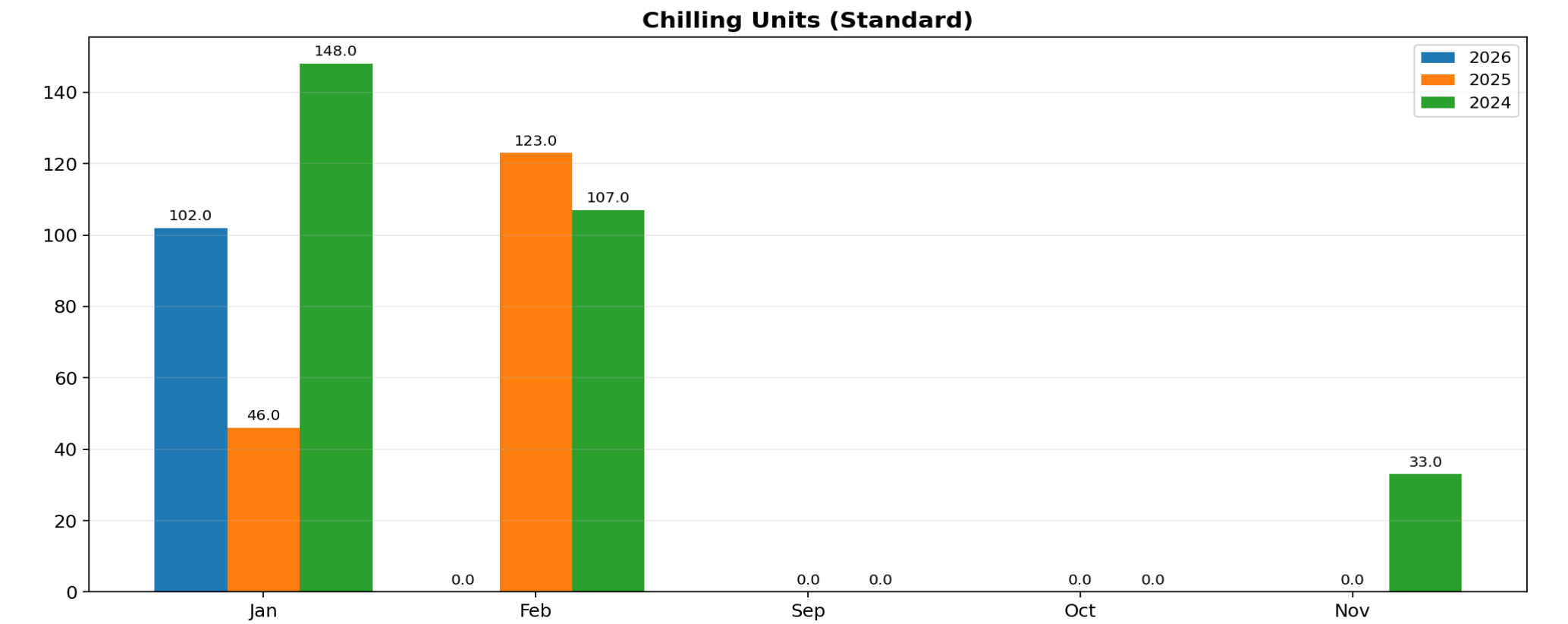
Frost days (Tmin ≤ 0.0°C) (days)

Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	1	0	1	0	1	0	100.0	0.71	2
Feb	0	0	1	0	1	-0	-100.0	-0.71	2
Sep	No data	0	0	0	0	No data	No data	No data	2
Oct	No data	0	0	0	0	No data	No data	No data	2
Nov	No data	0	0	0	0	No data	No data	No data	2



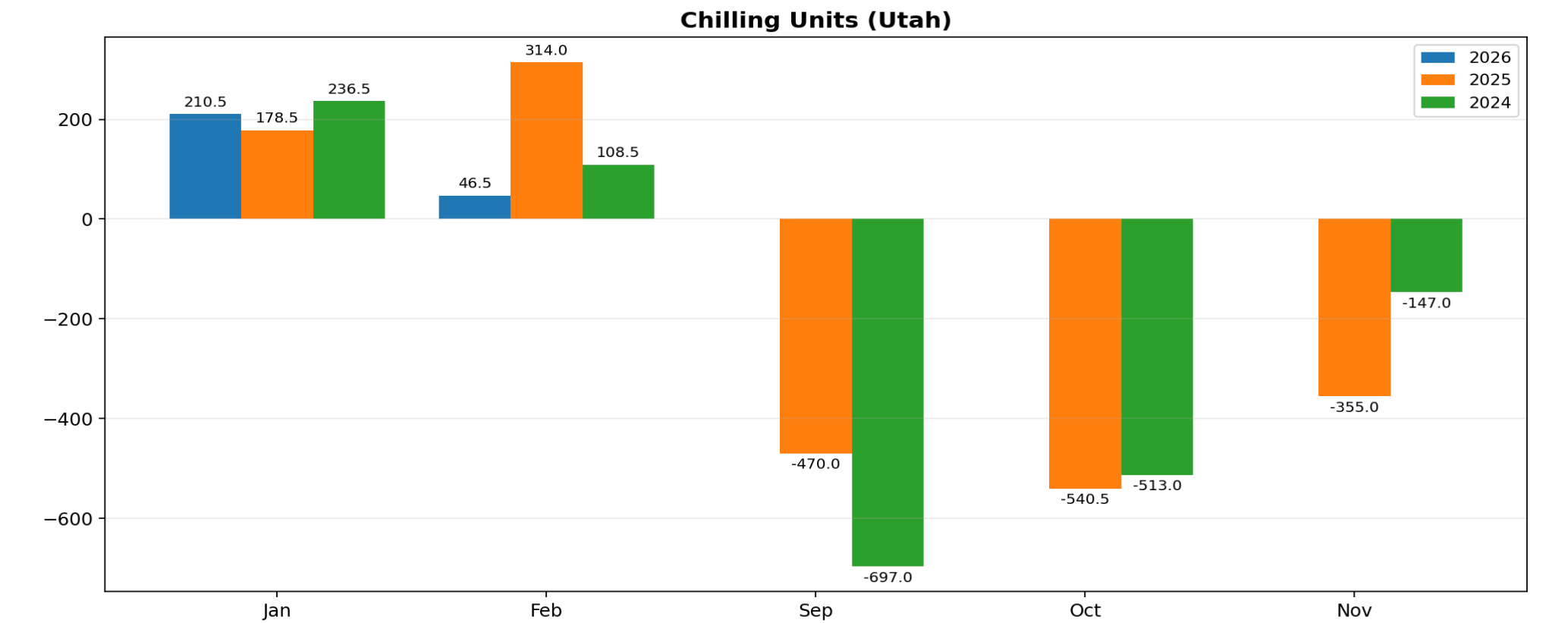
Chilling Units (Standard) (CU)

Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	102	46	148	97	72	5	5.2	0.07	2
Feb	0	123	107	115	11	-115	-100.0	-10.16	2
Sep	No data	0	0	0	0	No data	No data	No data	2
Oct	No data	0	0	0	0	No data	No data	No data	2
Nov	No data	0	33	16	23	No data	No data	No data	2



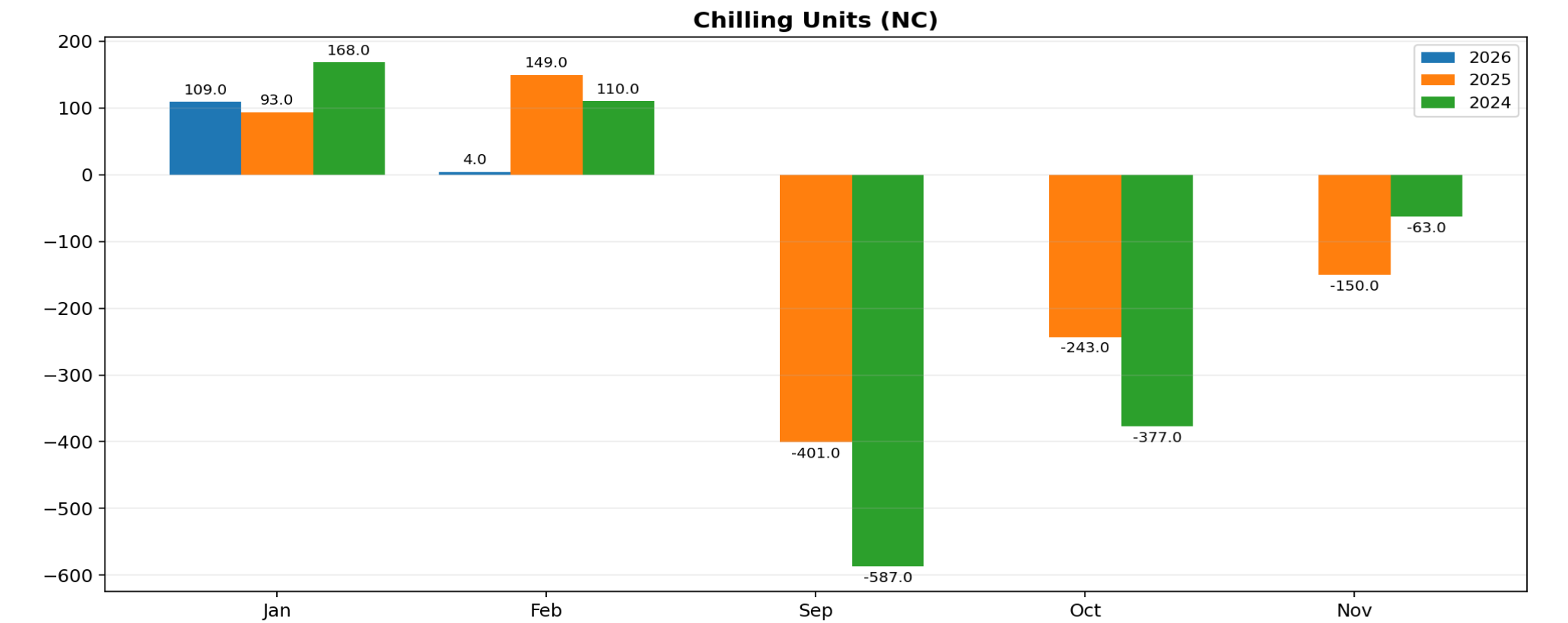
Chilling Units (Utah) (CU)

Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	210	178	236	208	41	3	1.4	0.07	2
Feb	46	314	108	211	145	-165	-78.0	-1.13	2
Sep	No data	-470	-697	-584	161	No data	No data	No data	2
Oct	No data	-540	-513	-527	19	No data	No data	No data	2
Nov	No data	-355	-147	-251	147	No data	No data	No data	2



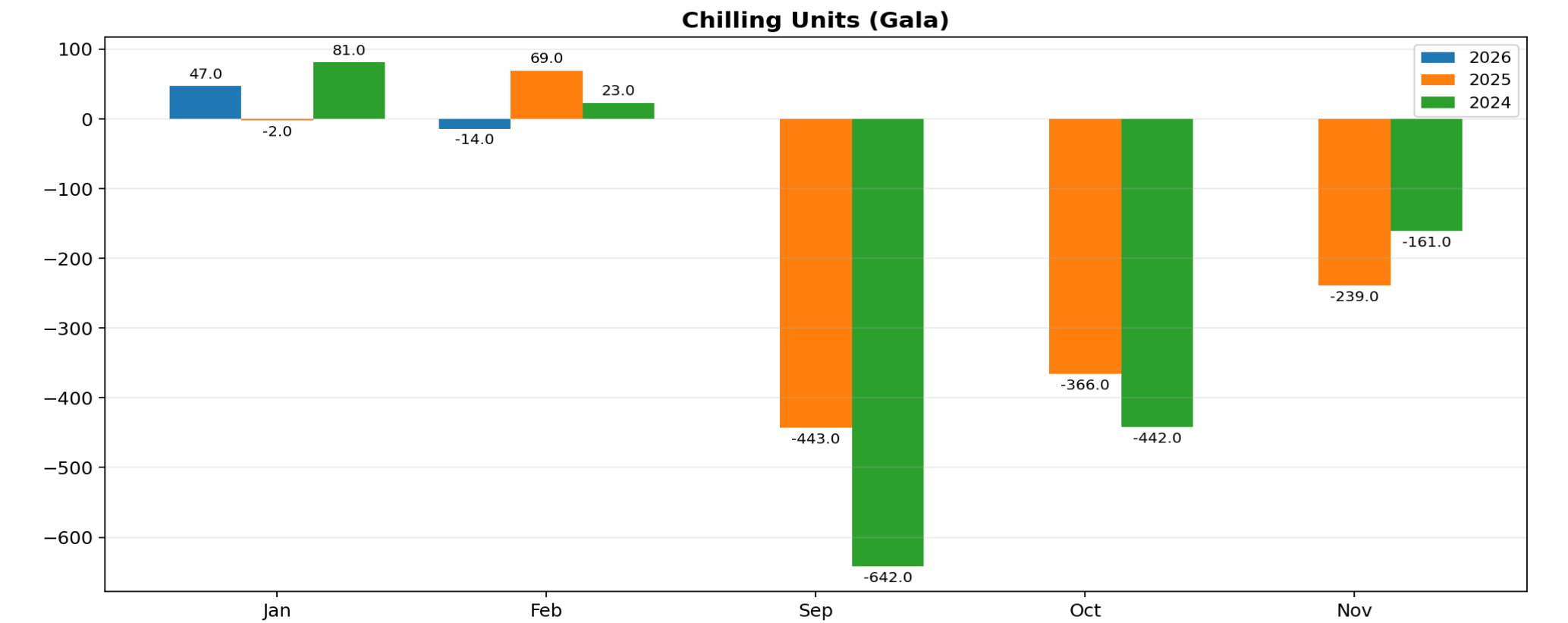
Chilling Units (NC) (CU)

Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	109	93	168	130	53	-22	-16.5	-0.41	2
Feb	4	149	110	130	28	-126	-96.9	-4.55	2
Sep	No data	-401	-587	-494	132	No data	No data	No data	2
Oct	No data	-243	-377	-310	95	No data	No data	No data	2
Nov	No data	-150	-63	-106	62	No data	No data	No data	2



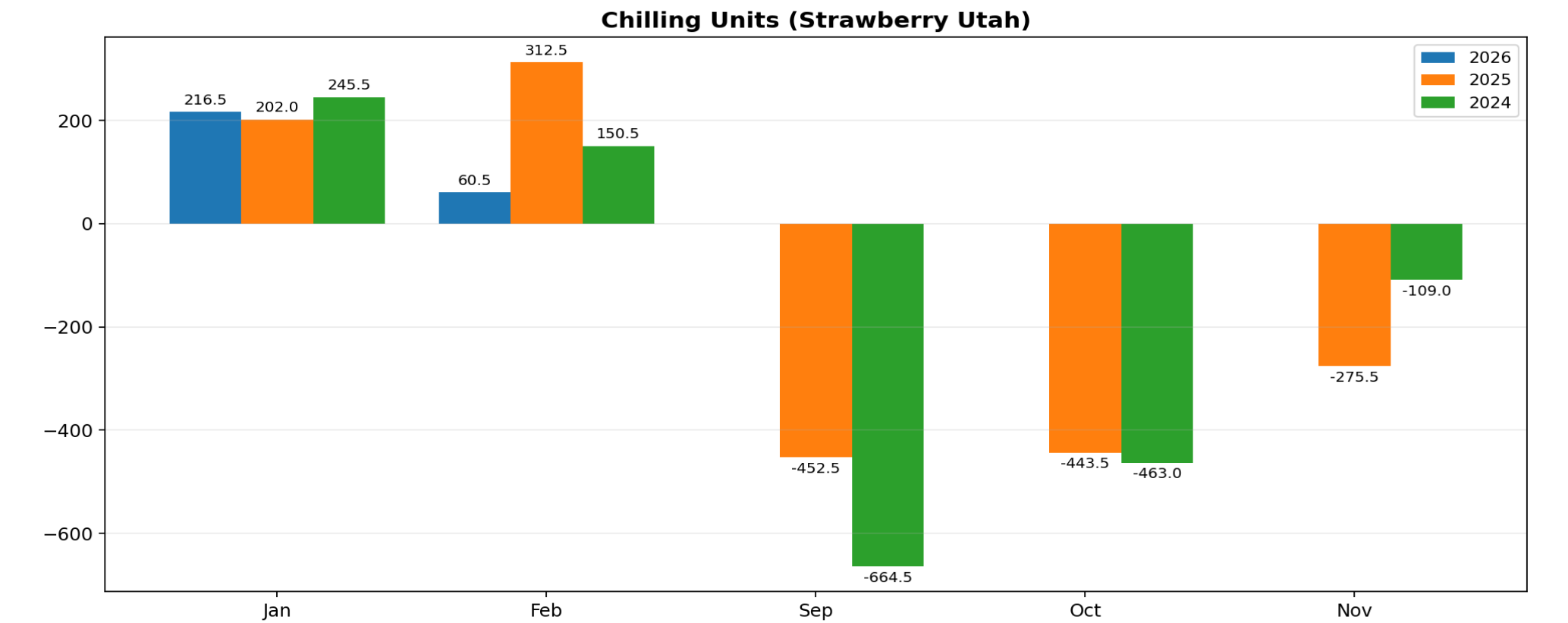
Chilling Units (Gala) (CU)

Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	47	-2	81	40	59	8	19.0	0.13	2
Feb	-14	69	23	46	33	-60	-130.4	-1.84	2
Sep	No data	-443	-642	-542	141	No data	No data	No data	2
Oct	No data	-366	-442	-404	54	No data	No data	No data	2
Nov	No data	-239	-161	-200	55	No data	No data	No data	2



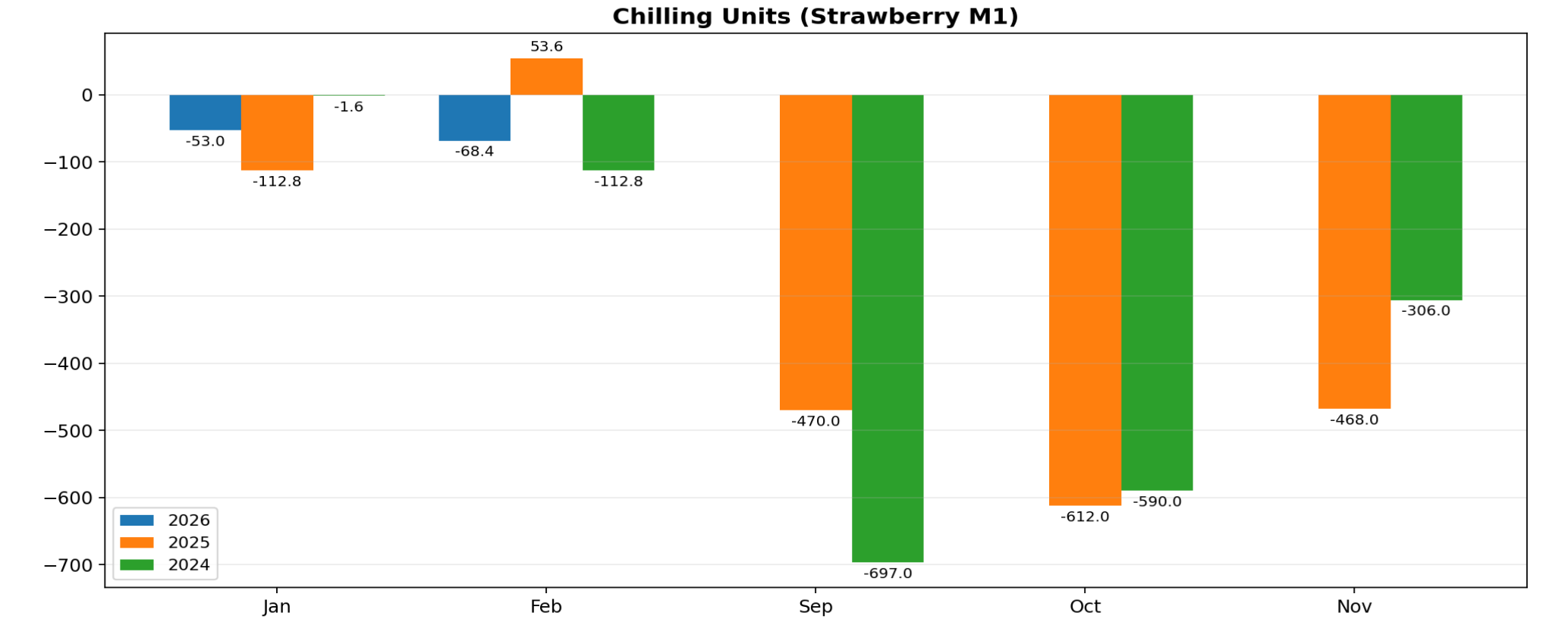
Chilling Units (Strawberry Utah) (CU)

Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	216	202	246	224	31	-7	-3.2	-0.24	2
Feb	60	312	150	232	115	-171	-73.9	-1.49	2
Sep	No data	-452	-664	-558	150	No data	No data	No data	2
Oct	No data	-444	-463	-453	14	No data	No data	No data	2
Nov	No data	-276	-109	-192	118	No data	No data	No data	2



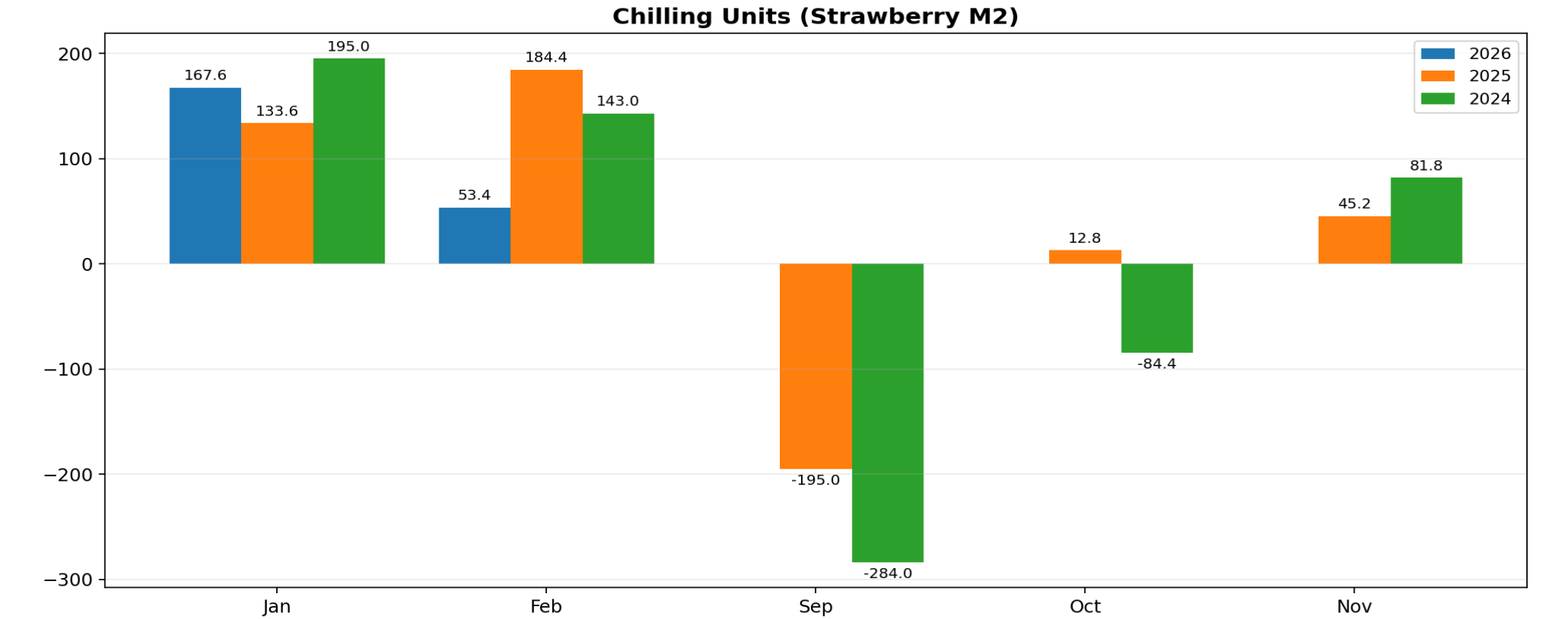
Chilling Units (Strawberry M1) (CU)

Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	-53	-113	-2	-57	79	4	-7.3	0.05	2
Feb	-68	54	-113	-30	118	-39	131.1	-0.33	2
Sep	No data	-470	-697	-584	161	No data	No data	No data	2
Oct	No data	-612	-590	-601	16	No data	No data	No data	2
Nov	No data	-468	-306	-387	115	No data	No data	No data	2



Chilling Units (Strawberry M2) (CU)

Month	2026	2025	2024	baseline_ mean	baseline_ sd	delta	pct_ delta	z	baseline_ n
Jan	168	134	195	164	43	3	2.0	0.08	2
Feb	53	184	143	164	29	-110	-67.4	-3.77	2
Sep	No data	-195	-284	-240	63	No data	No data	No data	2
Oct	No data	13	-84	-36	69	No data	No data	No data	2
Nov	No data	45	82	64	26	No data	No data	No data	2



Stress Indices

SDSI = Statistical Deviation Stress Index
PSSI = Physiological Strawberry Stress Index
RSI = Reproductive Stability Index

Transparent PSSI Formula (fixed 0–100 scale)

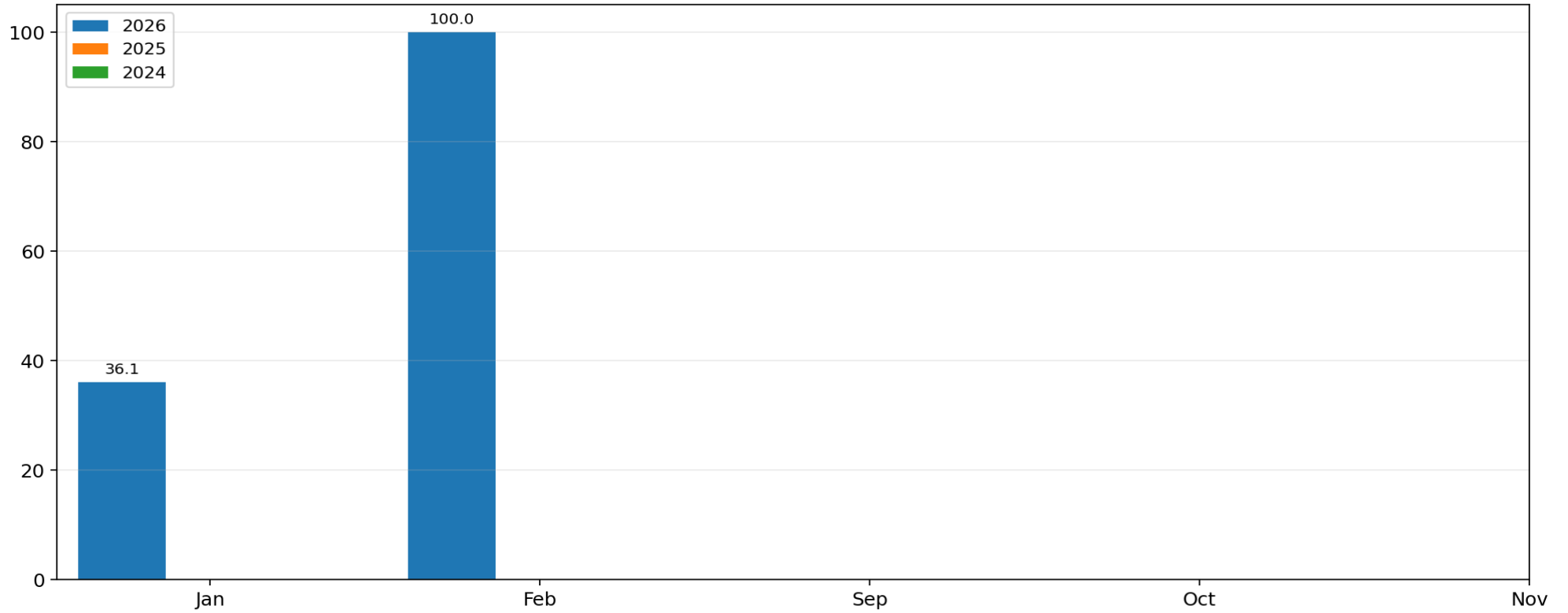
Weights: WB=0.40, VPD=0.40, T=0.20
Scales (z→score): WB×20.0, VPD×20.0, T×15.0
WB_score = clamp(0..100, max(0, -z(WaterBalance)) * K_WB)
VPD_score = clamp(0..100, max(0, +z(VPD)) * K_VPD)
T_score = clamp(0..100, |z(Temperature)| * K_T)
PSSI = W_WB*WB_score + W_VPD*VPD_score + W_T*T_score
RSI = 100 - PSSI, with frost correction: RSI -= min(30, frost_days*5)
SDSI = min(100, mean(|z|)*25), z uses baseline_n>=2 only

Stress Drivers (what pushed stress upward)

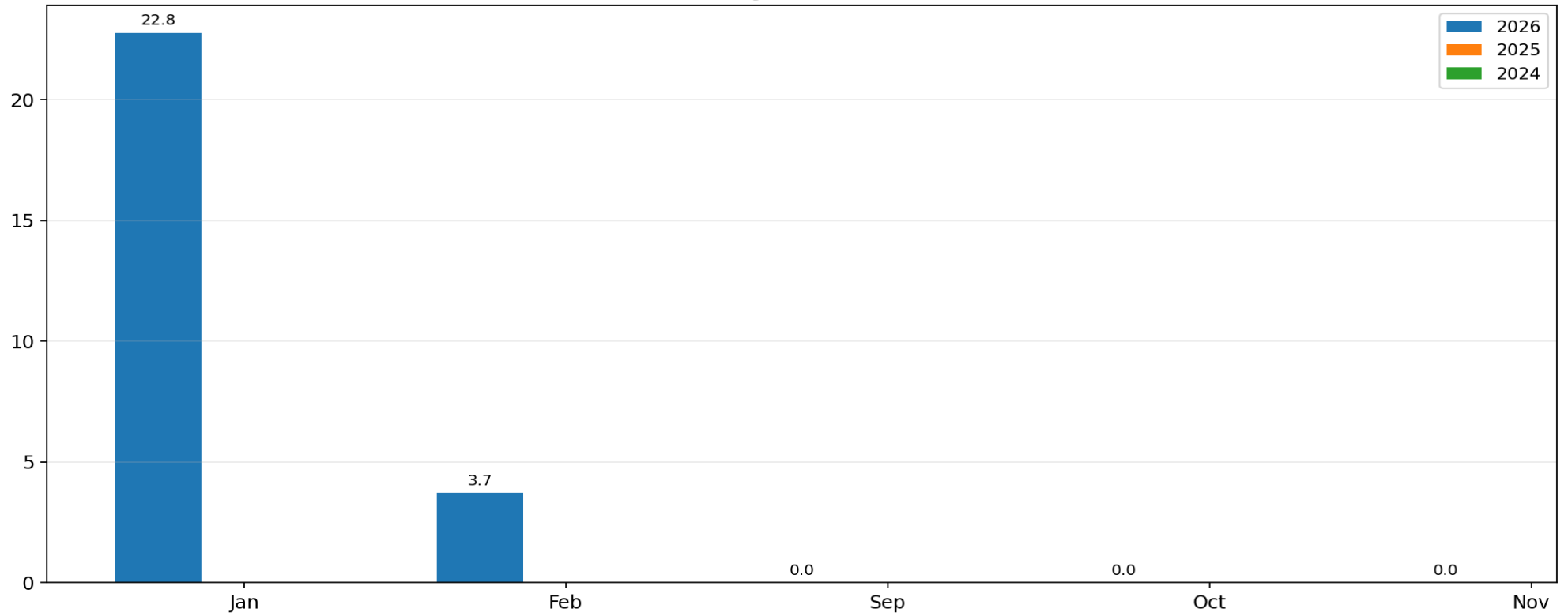
Month	SDSI	SDSI_driver	PSSI	PSSI_driver	WB_score	VPD_score	T_score	RSI	Confidence
Jan	36.1	VPD_mean_kPa	22.8	VPD	0.0	55.2	3.3	72.2	OK
Feb	100.0	VPD_mean_kPa	3.7	T	0.0	0.0	18.6	96.3	OK
Sep	No data	None	0.0	WB	0.0	0.0	0.0	100.0	OK
Oct	No data	None	0.0	WB	0.0	0.0	0.0	100.0	OK
Nov	No data	None	0.0	WB	0.0	0.0	0.0	100.0	OK

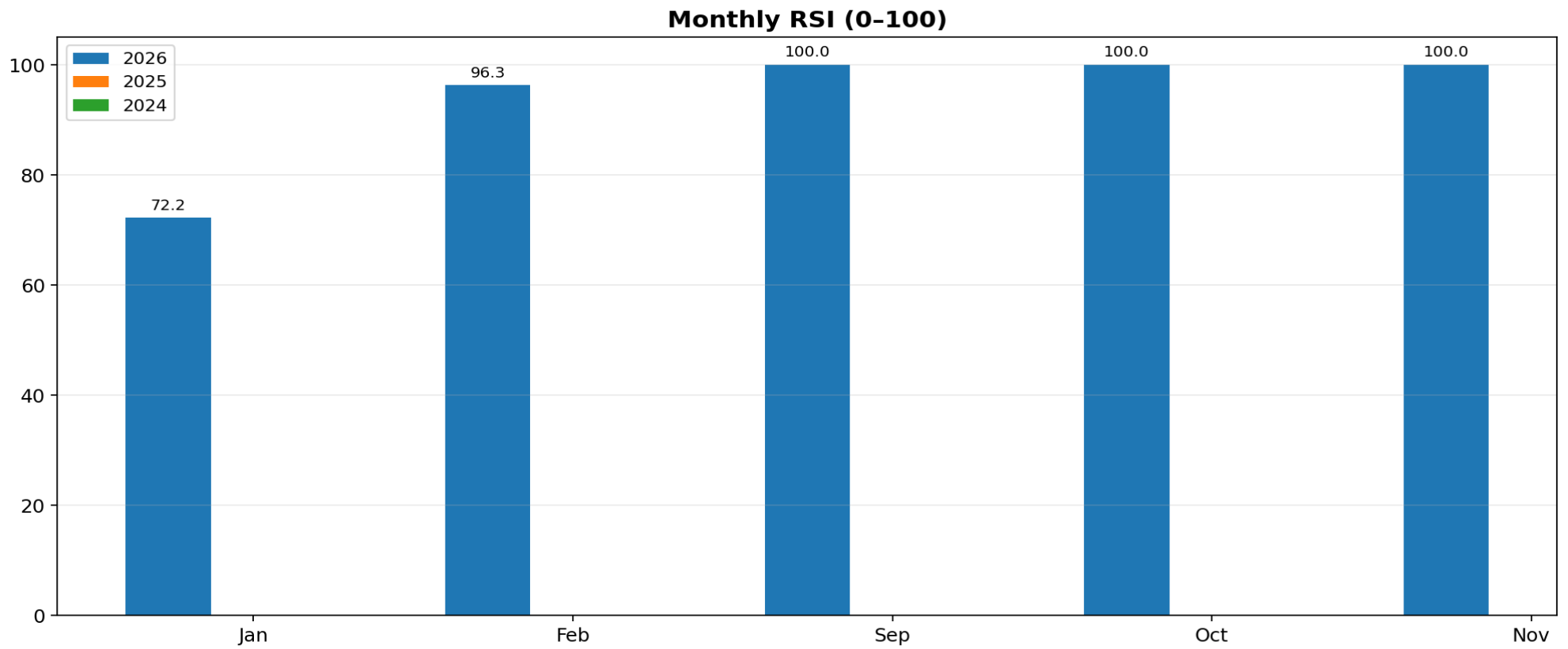
Stress Charts

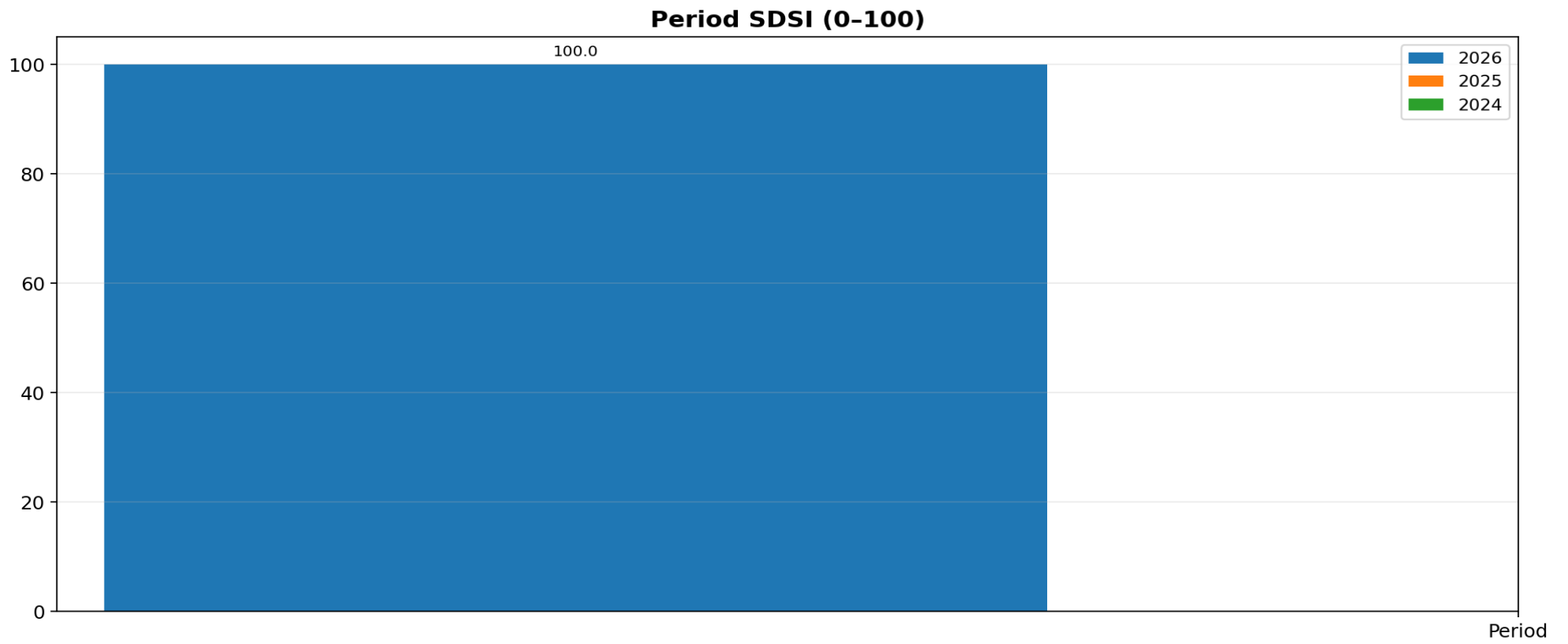
Monthly SDSI (0-100)



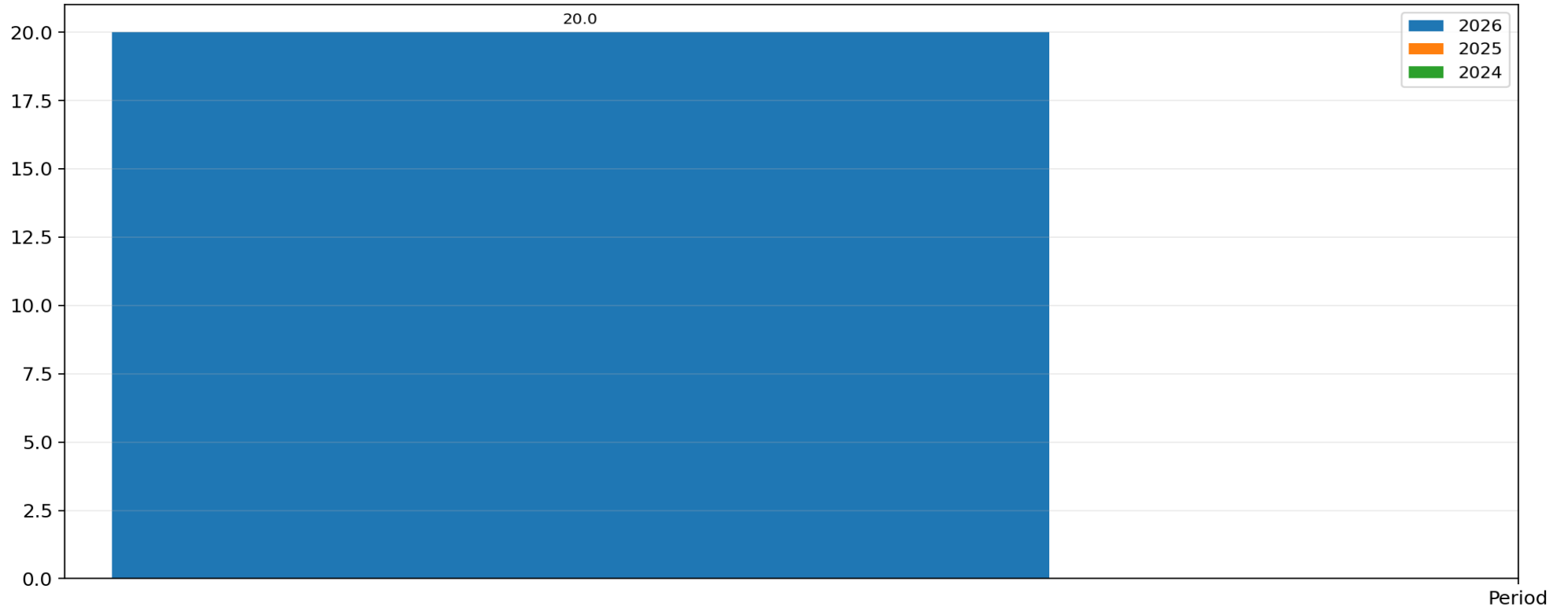
Monthly PSSI (0-100)



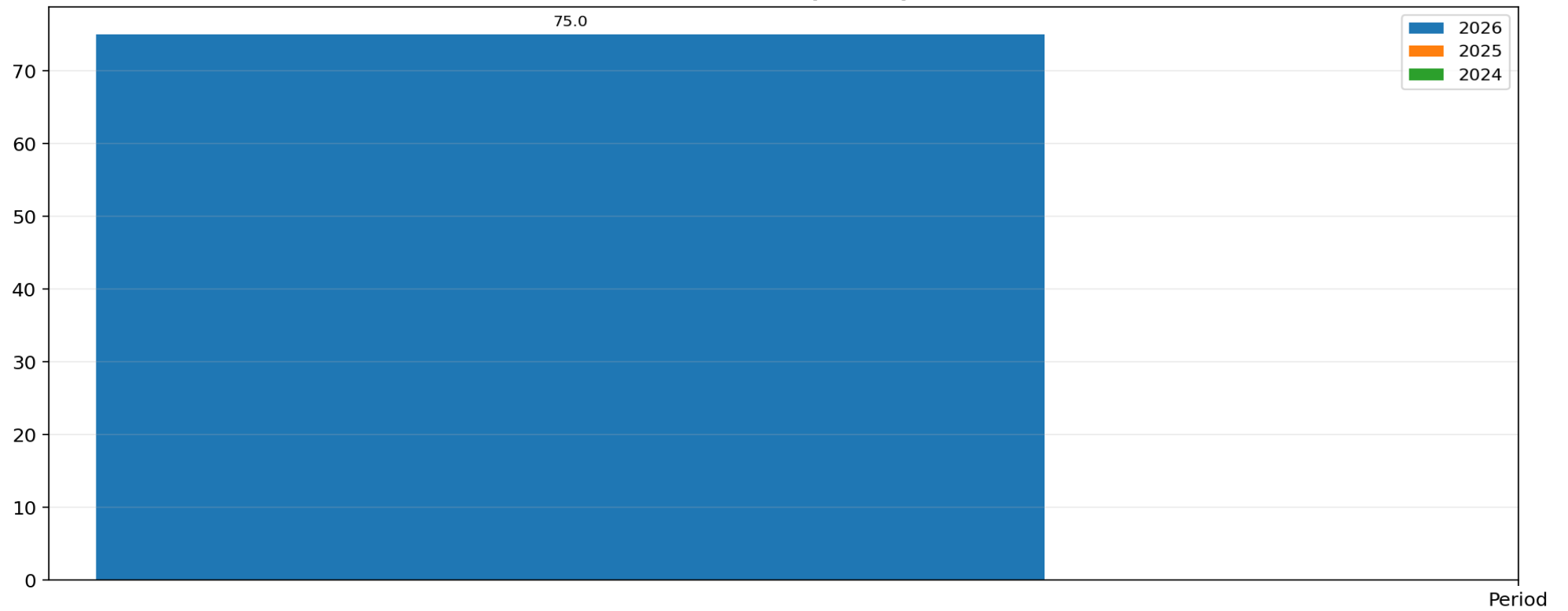




Period PSSI (0-100)



Period RSI (0-100)



Breeders

BREEDERS DATA & PRODUCTION-RELEVANT INTERPRETATION

Context: Planting in early October; harvest ends late May; continuous flowering and fruiting. Strawberry fresh market cultivars commonly used in Greece (e.g., Victory bare root; Arwen/Llosana/Calinda potted).

The notes below are strictly retrospective and tied to the measured values.

AIR TEMPERATURE (MEAN) (°C)

- Jan 2026: 11.3 °C (baseline mean: 11.5, n=2). Moderate mean temperatures were generally compatible with continuous flowering/fruiting in Mediterranean systems, supporting stable development without strong heat inhibition.
- Feb 2026: 12.7 °C (baseline mean: 10.9, n=2). Moderate mean temperatures were generally compatible with continuous flowering/fruiting in Mediterranean systems, supporting stable development without strong heat inhibition.
- Sep 2026: No data °C (baseline mean: 24.2, n=2). No data for this month, so physiological interpretation was not attempted.
- Oct 2026: No data °C (baseline mean: 18.9, n=2). No data for this month, so physiological interpretation was not attempted.
- Nov 2026: No data °C (baseline mean: 15.7, n=2). No data for this month, so physiological interpretation was not attempted.

VPD (MEAN) (kPa)

- Jan 2026: 0.36 kPa (baseline mean: 0.31, n=2). Low VPD implied low atmospheric demand; transpiration-driven calcium flow may have reduced, potentially affecting fruit firmness if persistent, while water stress risk was lower.
- Feb 2026: 0.29 kPa (baseline mean: 0.35, n=2). Low VPD implied low atmospheric demand; transpiration-driven calcium flow may have reduced, potentially affecting fruit firmness if persistent, while water stress risk was lower.
- Sep 2026: No data kPa (baseline mean: 1.06, n=2). No data for this month, so physiological interpretation was not attempted.
- Oct 2026: No data kPa (baseline mean: 0.66, n=2). No data for this month, so physiological interpretation was not attempted.
- Nov 2026: No data kPa (baseline mean: 0.50, n=2). No data for this month, so physiological interpretation was not attempted.

RELATIVE HUMIDITY (MEAN) (%)

- Jan 2026: 74.5 % (baseline mean: 78.8, n=2). Intermediate humidity was generally compatible with stable transpiration and reproductive continuity.
- Feb 2026: 81.8 % (baseline mean: 75.2, n=2). Intermediate humidity was generally compatible with stable transpiration and reproductive continuity.
- Sep 2026: No data % (baseline mean: 68.3, n=2). No data for this month, so physiological interpretation was not attempted.
- Oct 2026: No data % (baseline mean: 72.7, n=2). No data for this month, so physiological interpretation was not attempted.
- Nov 2026: No data % (baseline mean: 74.6, n=2). No data for this month, so physiological interpretation was not attempted.

RAINFALL (SUM) (mm)

- Jan 2026: 164.8 mm (baseline mean: 92.6, n=2). High rainfall months could reduce irrigation demand but may have increased cloudiness and disease-conducive microclimate, which could indirectly constrain fruit quality and harvest continuity.
- Feb 2026: 154.2 mm (baseline mean: 60.4, n=2). High rainfall months could reduce irrigation demand but may have increased cloudiness and disease-conducive microclimate, which could indirectly constrain fruit quality and harvest continuity.
- Sep 2026: No data mm (baseline mean: 75.3, n=2). No data for this month, so physiological interpretation was not attempted.
- Oct 2026: No data mm (baseline mean: 63.8, n=2). No data for this month, so physiological interpretation was not attempted.
- Nov 2026: No data mm (baseline mean: 140.7, n=2). No data for this month, so physiological interpretation was not attempted.

WATER BALANCE (RAIN - ETO) (mm)

- Jan 2026: 123.7 mm (baseline mean: 58.1, n=2). Positive water balance suggested rainfall exceeded ETo for the