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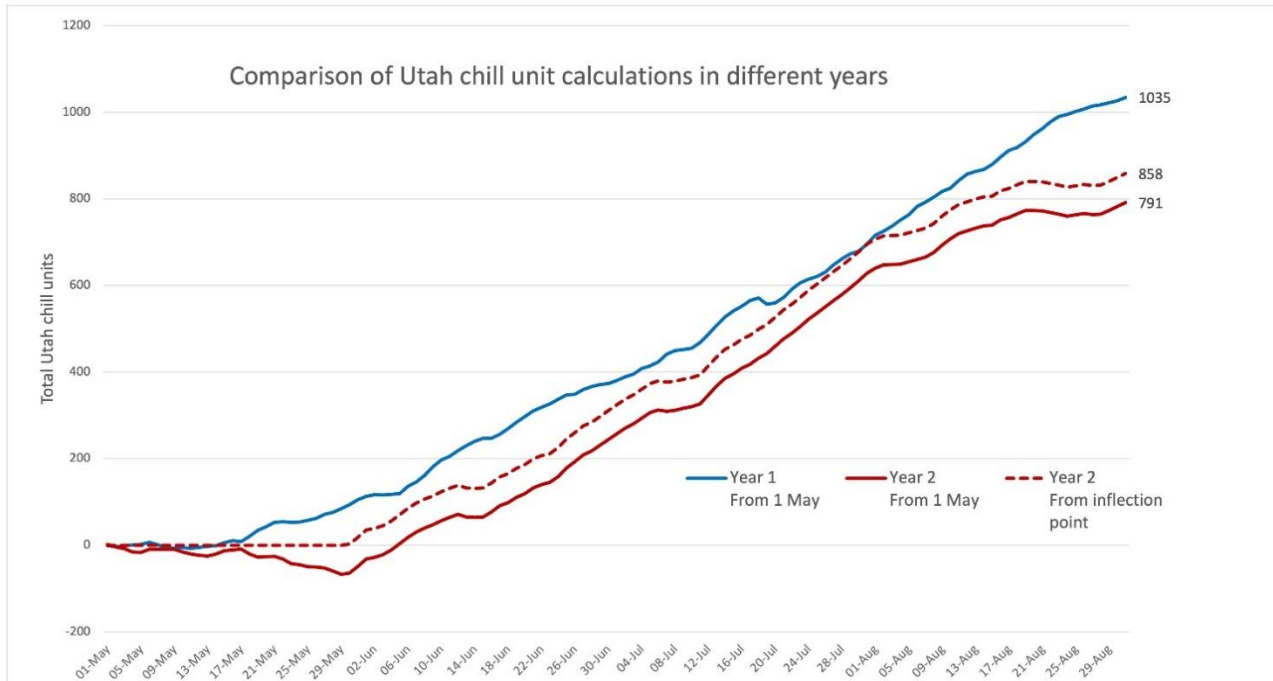


Temperature and Rainfall report for JUNE 2022 vs 2021

Area	JUNE																	
	Average Temp			MAX Temp			MIN Temp			Avg Daily MAX			Avg Daily MIN			Total Rain		
	2021	2022	22 vs '21	2021	2022	22 vs '21	2021	2022	22 vs '21	2021	2022	22 vs '21	2021	2022	22 vs '21	2021	2022	22 vs '21
Elgin	11.7	10.9	↓-0.8	27.7	28.0	↑0.3	-0.6	-1.0	↓-0.4	19.1	19.8	↑0.7	5.6	4.1	↓-1.5	147	187	↑40
Ermelo	8.2	7.4	↓-0.8	23.6	22.1	↓-1.5	-4.6	-5.6	↓-1.0	16.9	15.9	↓-1.1	1.0	0.5	↓-0.5	29	35	↑7
Franschhoek	14.4	14.1	↓-0.3	27.8	29.4	↑1.5	5.5	4.3	↓-1.1	20.2	21.4	↑1.2	10.0	9.1	↓-1.0	153	125	↓-28
Greyton	13.7	12.1	↓-1.6	29.3	29.9	↑0.6	2.9	0.4	↓-2.5	20.6	20.6	↑0.1	7.9	5.4	↓-2.6	49	85	↑36
Koue Bokkeveld	9.5	8.8	↓-0.7	23.9	23.2	↓-0.7	-1.3	-4.3	↓-3.0	17.2	17.3	↑0.2	3.3	2.1	↓-1.2	120	110	↓-10
Ladismith	13.4	10.2	↓-3.2	26.9	27.8	↑0.9	0.7	-3.6	↓-4.3	19.9	20.3	↑0.4	7.5	2.3	↓-5.3	13	8	↓-5
Langkloof - Oos	12.2	10.9	↓-1.3	26.6	25.7	↓-0.9	0.2	-0.7	↓-0.9	20.1	19.8	↓-0.3	5.8	4.1	↓-1.7	8	22	↑14
Langkloof - Wes	11.5	9.8	↓-1.6	23.8	22.9	↓-0.9	-2.0	-4.1	↓-2.1	18.1	17.4	↓-0.8	4.9	3.1	↓-1.8	8	86	↑78
Montagu	12.7	11.5	↓-1.2	28.3	29.0	↑0.8	1.4	-1.7	↓-3.1	21.0	21.2	↑0.2	6.2	4.3	↓-1.9	32	54	↑22
Nuy	13.7	14.4	↑0.6	29.4	30.3	↑0.9	2.6	5.0	↑2.4	20.8	21.0	↑0.2	7.7	9.0	↑1.2	33	62	↑29
Piketberg	12.9	13.9	↑1.0	24.6	24.6	↑0.0	5.8	4.7	↓-1.2	16.6	17.9	↑1.3	9.6	10.3	↑0.7	117	137	↑20
Robertson	13.2	11.0	↓-2.3	29.2	30.2	↑1.0	1.9	-0.8	↓-2.7	21.0	21.0	↑0.1	7.3	3.5	↓-3.7	33	13	↓-20
Simondium	14.8	15.4	↑0.6	27.7	29.3	↑1.6	5.7	5.0	↓-0.7	24.9	21.4	↓-3.4	9.4	10.5	↑1.1	102	153	↑52
Stellenbosch	14.6	14.9	↑0.3	28.0	29.4	↑1.4	5.8	4.7	↓-1.1	19.9	21.3	↑1.4	10.3	9.4	↓-0.9	161	118	↓-43
Tulbagh	14.4	11.8	↓-2.5	28.8	28.8	↓0.0	6.8	5.0	↓-1.8	19.6	21.1	↑1.5	10.3	4.3	↓-6.1	189	55	↓-134
Villiersdorp	13.8	13.2	↓-0.6	27.3	27.4	↑0.1	4.6	2.2	↓-2.4	19.3	19.0	↓-0.3	9.3	7.8	↓-1.6	107	84	↓-24
Vrystaat	8.0	7.7	↓-0.3	22.2	22.8	↑0.6	-3.9	-5.4	↓-1.6	17.1	17.4	↑0.2	0.8	0.6	↓-0.2	1	7	↑6
Vyeboom	13.3	12.3	↓-1.0	27.1	27.9	↑0.8	1.5	0.3	↓-1.2	19.2	19.9	↑0.7	6.9	5.9	↓-1.0	271	243	↓-28
Waterberg	13.9	12.6	↓-1.3	27.1	25.1	↓-2.0	2.6	1.2	↓-1.4	21.4	20.1	↓-1.3	7.3	6.0	↓-1.3	0	3	↑3
WBV - Noord	11.9	11.1	↓-0.8	27.4	27.5	↑0.1	0.4	0.0	↓-0.4	19.7	20.3	↑0.6	5.9	4.5	↓-1.4	79	68	↓-11
WBV - Suid	10.7	9.8	↓-0.8	25.8	26.8	↑1.0	-0.6	-1.0	↓-0.4	18.9	19.4	↑0.5	4.8	3.1	↓-1.7	156	88	↓-68
Wellington	14.3	14.3	↑0.0	29.5	30.8	↑1.3	4.0	4.0	↓-0.1	21.2	22.3	↑1.1	9.1	8.4	↓-0.7	88	94	↑6
Wolseley	13.6	12.0	↓-1.5	28.6	30.2	↑1.5	2.5	-1.2	↓-3.7	20.1	20.9	↑0.8	8.1	5.4	↓-2.7	133	119	↓-14

***Correctly calculating Utah (Richardson) chill units**

In our industry, Utah chill units have been calculated from the arbitrary date of 1 May. This is incorrect as according to the model, chill units should be counted from the lowermost inflection point, i.e. the lowermost or most negative turning point, of the annual accumulated chill unit curve. In warm areas and in a warm season, the inflection point might occur much later than 1 May while in cold seasons and in cold regions, it might occur before May. The figure below illustrates how different calibrations of the Utah model can affect the reported accumulated chill.



In the figure above, the blue solid line represents year 1, where the model has been correctly calibrated, so units only begin to accumulate from the inflection point, which happens to be 1 May. The red solid line, however, indicate that in year 2, chill units are also accumulated from 1 May, but the inflection point only occurs at the end of May. The result is an accumulation of negative chill units during May of year 2, which incorrectly reduces the reported data. The red dashed line indicate the accumulated chill units in year 2 if the model is correctly calibrated to start counting chill at the actual inflection point which is at the end of May. For more information, view issue 13 of the Fresh Quarterly - <https://www.freshquarterly.co.za/publication/fresh-quarterly-issue-13-june-2021/>

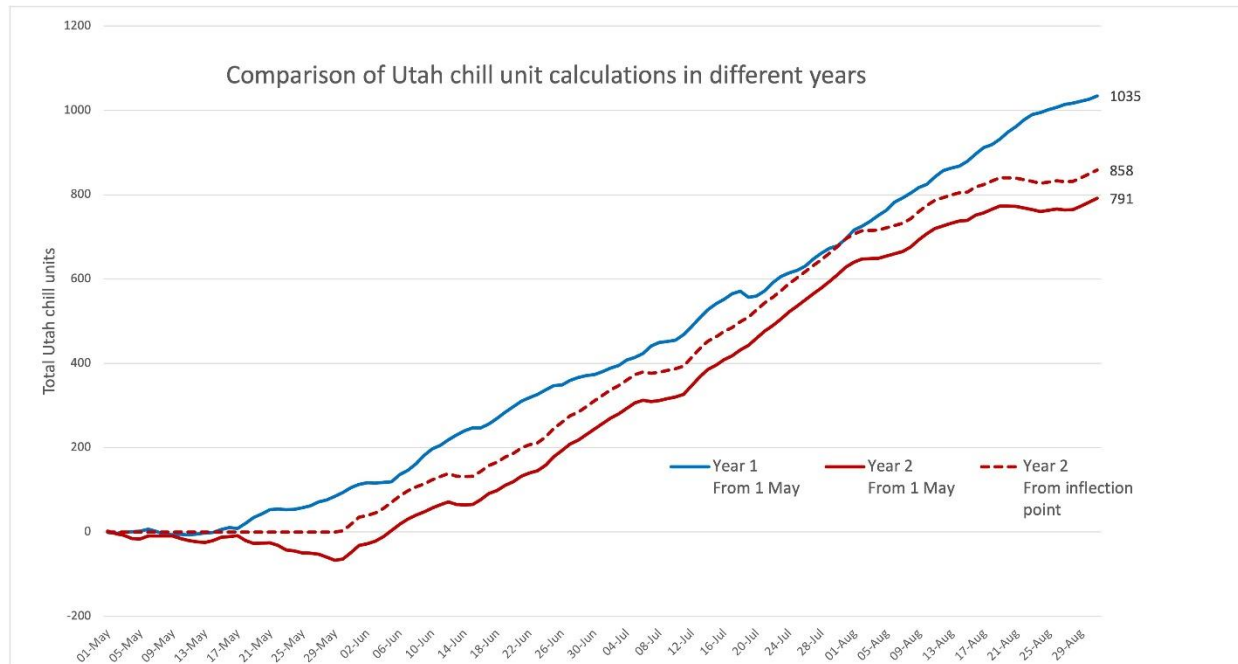
Thanks to Dr Nigel Cook for contributing the data set for this chart.

From winter 2022, we will be reporting Utah chill units from the inflection point, as specified by the model. Since the inflection points can only be determined in retrospect, we could not report on the accumulated chill units at the end of May as some regions/stations were still busy reaching their inflection points.

In this report, we reported the accumulated chill units to date (30 June), the date of the inflection points as well as the re-calculated chill units for previous years so that comparison between years is possible.

Die korrekte bepaling van Utah (Richardson) koue-eenhede

In ons bedryf is Utah koue-eenhede tot op hede vanaf die arbitrêre datum van 1 Mei bepaal. Dit is verkeerd, want volgens die model, moet koue-eenhede eers vanaf die onderste of mees negatiewe draaipunt van die jaarlikse geakkumuleerde koue-eenhede kurwe bepaal word. In warm areas en in 'n warm seisoen kan die draaipunt heelwat na 1 Mei bereik word terwyl in koue seisoene en areas dit voor Mei kan gebeur.



In die grafiek hierbo verteenwoordig die blou lyn jaar 1, waar die model korrek gekalibreer is sodat koue-eenhede eers begin akkumuleer vanaf die draaipunt, wat in die geval 1 Mei was. Die soliede rooi lyn verteenwoordig die 2de jaar waar koue-eenhede ook vanaf 1 Mei begin akkumuleer het, alhoewel die draaipunt eers teen einde Mei was. Laasgenoemde lei tot die akkumulering van negatiewe koue-eenhede gedurende Mei wat gevolglik die gerapporteerde data verkeerdelik afwaarts aanpas. Die rooi stippellyn dui die koue-eenhede aan wat ge-akkumuleer word gedurende jaar 2 indien die model korrek gekalibreer word sodat koue eers vanaf die werklike draaipunt begin akkumuleer. Vir meer inligting, sien uitgawe 13 van die Fresh Quarterly - <https://www.freshquarterly.co.za/publication/fresh-quarterly-issue-13-june-2021/>.

Dankie aan Dr Nigel Cook vir die bydra tot die datastel vir die grafiek.

Vanaf winter 2022 gaan ons Utah koue-eenhede korrek volgens die model vanaf die draaipunt rapporteer. Aangesien die draaipunte net terugskouend bepaal kan word, kon ons nie die ge-akkumuleerde koue-eenhede teen einde Mei rapporteer nie want sommige van die areas/stasies was steeds besig om hul draaipunte te bereik.

In die verslag word die ge-akkumuleerde koue-eenhede tot en met 30 Junie gerapporteer asook die datum van die draaipunte en die hêrberekende koue-eenhede van vorige jare om vergelyking tussen jare moontlik te maak.

Accumulated Richardson cold units until 30 June 2019 - 2022

Accumulated Richardson units to date (30 Jun 2022)									
Area	Start date* 2019	RICH (2019)	Start date* 2020	RICH (2020)	Start date* 2021	RICH (2021)	Start date* 2022	RICH (2022)	RICH (21 vs 22)
Elgin	13 April 2019	250	12 April 2020	321	27 April 2021	296	14 April 2022	349	↑ 53
Ermelo	Pre-station date	-	31 March 2020	511	15 April 2021	571	06 April 2022	718	↑ 147
Franschhoek	03 June 2019	101	22 May 2020	103	22 June 2021	56	13 June 2022	65	↑ 9
Greyton	16 May 2019	153	12 May 2020	210	15 May 2021	133	18 May 2022	190	↑ 57
Koue Bokkeveld	19 May 2019	397	05 April 2020	462	26 April 2021	535	29 March 2022	566	↑ 31
Ladismith	21 June 2019	41	25 May 2020	110	15 May 2021	135	23 April 2022	266	↑ 131
Langkloof - Oos	15 May 2019	247	10 May 2020	317	15 May 2021	286	21 April 2022	361	↑ 75
Langkloof - Wes	21 June 2019	49	09 June 2020	84	15 May 2021	132	18 May 2022	194	↑ 62
Montagu	15 May 2019	77	22 May 2020	137	15 May 2021	160	19 May 2022	185	↑ 25
Nuy	Pre-station date	-	12 May 2020	140	15 May 2021	92	26 May 2022	166	↑ 74
Piketberg	29 May 2019	160	09 June 2020	176	14 May 2021	241	05 May 2022	181	↓ -60
Robertson	15 May 2019	142	13 May 2020	209	15 May 2021	163	05 May 2022	250	↑ 87
Simondium	30 May 2019	121	21 May 2020	108	15 May 2021	76	12 June 2022	47	↓ -29
Stellenbosch	11 June 2019	52	09 June 2020	60	22 June 2021	59	02 July 2022	0	↓ -59
Tulbagh	Pre-station date	-	Pre-station date	-	22 June 2021	55	13 June 2022	109	↑ 54
Villiersdorp	30 May 2019	94	12 May 2020	145	15 May 2021	86	18 May 2022	116	↑ 31
Vrystaat	15 April 2019	435	01 April 2020	583	15 April 2021	602	05 April 2022	730	↑ 128
Vyeboom	03 May 2019	198	12 May 2020	301	15 May 2021	139	18 May 2022	183	↑ 44
Waterberg	08 June 2019	32	26 May 2020	122	30 May 2021	75	31 May 2022	120	↑ 45
WBV - Noord	02 May 2019	346	27 April 2020	334	06 May 2021	295	22 April 2022	358	↑ 63
WBV - Suid	30 April 2019	412	27 April 2020	424	27 April 2021	468	14 April 2022	497	↑ 29
Wellington	05 June 2019	133	09 June 2020	84	22 June 2021	41	13 June 2022	47	↑ 6
Wolseley	04 June 2019	83	12 May 2020	192	08 May 2021	134	18 May 2022	181	↑ 47

*chill units should be counted from the lowermost inflection point, i.e. the lowermost or most negative turning point, of the annual accumulated chill unit curve.

Accumulated Infruitec cold units until 30 June 2019 - 2022

Accumulated Infruitec units to date (30 Jun 2022)									
Area	Start date* 2019	INF (2019)	Start date* 2020	INF (2020)	Start date* 2021	INF (2021)	Start date* 2022	INF (2022)	INF (21 vs 22)
Elgin	13 April 2019	344	12 April 2020	405	27 April 2021	372	14 April 2022	432	↑ 60
Ermelo	Pre-station date	-	31 March 2020	557	15 April 2021	585	06 April 2022	737	↑ 152
Franschhoek	03 June 2019	128	22 May 2020	165	22 June 2021	57	13 June 2022	80	↑ 23
Greyton	16 May 2019	225	12 May 2020	286	15 May 2021	250	18 May 2022	283	↑ 33
Koue Bokkeveld	19 May 2019	456	05 April 2020	571	26 April 2021	586	29 March 2022	638	↑ 52
Ladismith	21 June 2019	63	25 May 2020	209	15 May 2021	277	23 April 2022	338	↑ 62
Langkloof - Oos	15 May 2019	280	10 May 2020	346	15 May 2021	313	21 April 2022	405	↑ 92
Langkloof - Wes	21 June 2019	70	09 June 2020	168	15 May 2021	264	18 May 2022	306	↑ 43
Montagu	15 May 2019	157	22 May 2020	192	15 May 2021	243	19 May 2022	235	↓ -9
Nuy	Pre-station date	-	12 May 2020	217	15 May 2021	208	26 May 2022	207	↓ -2
Piketberg	29 May 2019	272	09 June 2020	221	14 May 2021	415	05 May 2022	410	↓ -5
Robertson	15 May 2019	184	13 May 2020	244	15 May 2021	248	05 May 2022	303	↑ 56
Simondium	30 May 2019	156	21 May 2020	183	15 May 2021	186	12 June 2022	85	↓ -101
Stellenbosch	11 June 2019	100	09 June 2020	89	22 June 2021	60	02 July 2022	0	↓ -60
Tulbagh	Pre-station date	-	Pre-station date	-	22 June 2021	63	13 June 2022	126	↑ 63
Villiersdorp	30 May 2019	168	12 May 2020	238	15 May 2021	218	18 May 2022	257	↑ 40
Vrystaat	15 April 2019	458	01 April 2020	611	15 April 2021	611	05 April 2022	735	↑ 124
Vyeboom	03 May 2019	274	12 May 2020	343	15 May 2021	247	18 May 2022	276	↑ 29
Waterberg	08 June 2019	38	26 May 2020	143	30 May 2021	100	31 May 2022	133	↑ 33
WBV - Noord	02 May 2019	372	27 April 2020	386	06 May 2021	362	22 April 2022	415	↑ 54
WBV - Suid	30 April 2019	297	27 April 2020	446	27 April 2021	495	14 April 2022	522	↑ 28
Wellington	05 June 2019	153	09 June 2020	105	22 June 2021	47	13 June 2022	65	↑ 18
Wolseley	04 June 2019	128	12 May 2020	253	08 May 2021	224	18 May 2022	238	↑ 15

*chill units should be counted from the lowermost inflection point, i.e. the lowermost or most negative turning point, of the annual accumulated chill unit curve.

Accumulated Chill Portions until 30 June 2019 - 2022

Area	Accumulated Chill Portions ¹ to date (30 Jun 2022)								
	Start date* 2019	CP ¹ (2019)	Start date* 2020	CP ¹ (2020)	Start date* 2021	CP ¹ (2021)	Start date* 2022	CP ¹ (2022)	CP ¹ (21 vs 22)
Elgin	14 April 2019	21	06 April 2020	25	29 April 2021	24	06 April 2022	26	↑ 2
Ermelo	Pre-station date	-	18 March 2020	25	21 April 2021	29	05 April 2022	43	↑ 14
Franschhoek	15 April 2019	10	07 April 2020	9	17 May 2021	12	07 April 2022	10	↓ -2
Greyton	15 April 2019	16	07 April 2020	16	30 April 2021	16	16 April 2022	20	↑ 4
Koue Bokkeveld	14 April 2019	25	06 April 2020	22	30 April 2021	30	05 April 2022	35	↑ 5
Ladismith	16 April 2019	14	07 April 2020	13	30 April 2021	20	08 April 2022	24	↑ 4
Langkloof - Oos	02 April 2019	23	07 April 2020	19	30 April 2021	18	07 April 2022	26	↑ 8
Langkloof - Wes	15 April 2019	16	07 April 2020	17	03 April 2021	20	07 April 2022	28	↑ 8
Montagu	24 May 2019	7	26 May 2020	9	30 April 2021	13	16 April 2022	15	↑ 2
Nuy	Pre-station date	-	07 April 2020	10	17 May 2021	11	16 April 2022	18	↑ 7
Piketberg	05 April 2019	22	06 April 2020	21	29 April 2021	24	05 April 2022	27	↑ 3
Robertson	15 April 2019	17	07 April 2020	11	08 April 2021	0	20 April 2022	15	↑ 15
Simondium	15 April 2019	12	07 April 2020	10	17 May 2021	14	07 April 2022	13	↓ -1
Stellenbosch	15 April 2019	10	07 April 2020	9	30 April 2021	14	25 April 2022	13	↓ -1
Tulbagh	Pre-station date	-	Pre-station date	-	30 April 2021	13	07 April 2022	17	↑ 4
Villiersdorp	14 April 2019	15	07 April 2020	16	29 April 2021	17	07 April 2022	20	↑ 3
Vrystaat	06 April 2019	27	18 March 2020	37	22 April 2021	29	05 April 2022	41	↑ 12
Vyeboom	14 April 2019	20	06 April 2020	23	30 April 2021	16	07 April 2022	22	↑ 6
Waterberg	15 June 2019	0	12 June 2020	6	19 May 2021	5	04 June 2022	6	↑ 1
WBV - Noord	05 April 2019	23	07 April 2020	20	08 May 2021	18	25 April 2022	20	↑ 2
WBV - Suid	05 April 2019	24	07 April 2020	17	08 May 2021	26	06 April 2022	27	↑ 1
Wellington	15 April 2019	9	26 May 2020	8	22 May 2021	8	20 May 2022	8	↑ 0
Wolseley	15 April 2019	13	07 April 2020	13	18 May 2021	13	25 April 2022	19	↑ 6

*chill units should be counted from the lowermost inflection point, i.e. the lowermost or most negative turning point, of the annual accumulated chill unit curve.

¹ CP = Chill portions according to the dynamic model (Fishman *et al.*, 1987)